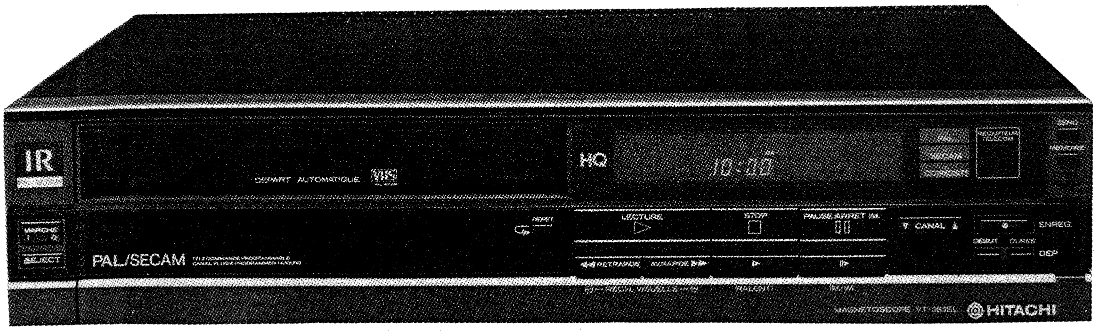
HITACHI
SERVICE MANUAL

TK **No. 2534E**

VT-262EL

Technical Data


IR
DEPART AUTOMATIQUE
VHS
HQ
10:00
PAL
SECAM
RECEPTEUR TELECOM
ZERO
MEMOIRE
MARCHE
EJECT
PAL/SECAM
LECTURE
STOP
PAUSE/ARRET IM.
CANAL
ENREG
DEBUT
DUREE
DSP
RETRAPIDE
AV.RAPIDE
RECH. VISUELLE
RALENTI
IM/IM
MAGNETOSCOPE VT-262EL
HITACHI

VHS
THIS VIDEO DECK IS A VHS TYPE VIDEO RECORDER.
FOR PROPER OPERATION, ONLY THE VHS TYPE CASSETTE MUST BE USED.

Manuals related to the VT-262EL

Language	Manual No.	Chapters included
English	2534E	Chapters 1 — 6
French	2535F	Chapters 1, 2, 5, 6
	2536F	Chapters 3, 4

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

November 1986 **TOKAI WORKS**

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CHAPITRE 1

FICHE TECHNIQUE

Format:	Standard VHS
Enregistrement:	Enregistrement azimutal par balayage hélicoïdal et deux têtes rotatives
Vitesse de défilement:	23,39 mm/sec.
Largeur de la bande:	12,7 mm
Gamme de température:	5 à 40 degrés C
Vidéo:	Standard PAL couleur (système B & G) et SECAM (système B, G, L', L) et signaux monochromes 625 lignes
Durée d'enregistrement:	240 minutes (à l'aide d'une cassette E-240)
Canaux de réception:	Canaux VHF 2 à 12 Canaux de câblo-distribution S1 à S20 Canaux UHF 21 à 69
Sortie haute fréquence:	Canaux UHF 37 (30 à 39 réglable)(système G & L)
Entrée vidéo:	0,5 — 1,5V c-c 75 ohms asymétrique
Sortie vidéo:	1V c-c 75 ohms asymétrique
Rapport S/B (vidéo):	Mieux que 40 dB
Rapport S/B (audio):	Mieux que 43 dB
Définition horizontale:	Couleur 240 lignes
Bande passante:	70 Hz à 12 kHz
Prise PERI Entrée audio:	−2 dBs 50K ohms
Sortie audio:	−2 dBs 10K ohms
Alimentation:	220V 50 Hz
Consommation électrique:	38W (chronorupteur compris)
Chronorupteur:	Affichage par cycle de 24 heures
Dimension du coffret:	435 mm (L) x 95 mm (H) x 342 mm (P)
Poids:	Approximatif 7,8 kg
Accessoire compris:	1 câble d'antenne 1 boîtier de télécommande à rayons infrarouges 2 feuilles d'étiquettes adhésives numérotés pour canaux

La conception et les renseignements techniques sont sujets à modification sans préavis.

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers'. Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

LIST OF DIFFERENCES

	ITEM	VT-262EL	VT-272EL
FEATURES	HQ (HIGH QUALITY)	USED	USED
	HiFi VHS RECORDING	NOT PROVIDED	PROVIDED
	TRICK PLAY	○ VISUAL SEARCH ○ PAUSE ○ F. ADV ○ REPEAT ○ SLOW	○ VISUAL SEARCH ○ PAUSE ○ F. ADV ○ REPEAT ○ SLOW ○ SCAN
	AUTO OPERATION ON FUNCTION	PROVIDED	PROVIDED
	NOISE LOCK SEARCH FUNCTION	PROVIDED	PROVIDED
	TIMER RECORDING PROGRAMMES	4 PROGRAMMES/14 DAYS	4 PROGRAMMES/14 DAYS
	TIMER BACK-UP POWER	PROVIDED (5 MINUTES)	PROVIDED (5 MINUTES)
	IRT (INSTANT RECORDING TIMER)	CAN SET START TIME AND LENGTH	CAN SET START TIME AND LENGTH
	MEMORY STOP (OPERATION MODE)	PROVIDED (REWIND AND FORWARD)	PROVIDED (REWIND AND FORWARD)
	ONE BUTTON RECORDING	PROVIDED	PROVIDED
	PLAYBACK PICTURE CONTROL	PROVIDED	PROVIDED
	AUTOMATIC REWIND	PROVIDED	PROVIDED
	REWIND SHUT OFF	PROVIDED	PROVIDED
	TAPE-IN INDICATOR LIGHT	PROVIDED	PROVIDED
	CHANNEL TUNING FUNCTION	VOLTAGE SYNTHESIZER (AUTO TUNING)	VOLTAGE SYNTHESIZER (AUTO TUNING)
	SLOW TRACKING CONTROL	PROVIDED	PROVIDED
	TAPE SPEED	SP: 23.3mm/sec for Recording/ Playback	VTR: 23.3mm/sec for AUDIO/ VIDEO Recording/Playback ATR: 11.7mm/sec for AUDIO Recording/Playback
	ATR/VTR SELECT SWITCH	NOT PROVIDED	PROVIDED
	PEAK LEVEL INDICATOR	NOT PROVIDED	PROVIDED
	HiFi INDICATOR	NOT PROVIDED	PROVIDED
	RECORDING LEVEL CONTROL	NOT PROVIDED	PROVIDED
	SCANA PLAY (INDICATOR/SWITCH)	NOT PROVIDED	PROVIDED
	SC (SIMULCAST)	NOT PROVIDED	PROVIDED
	HEADPHONE SOCKET	NOT PROVIDED	PROVIDED
	OUTPUT CONTROL	NOT PROVIDED	PROVIDED
	AUDIO CHANNEL SELECT SWITCH	NOT PROVIDED	PROVIDED
	AUDIO SELECT SWITCH	NOT PROVIDED	PROVIDED
	MPX FILTER	NOT PROVIDED	PROVIDED
	ALC SWITCH	NOT PROVIDED	PROVIDED
	TAPE SELECT SWITCH	NOT PROVIDED	PROVIDED

LIST OF DIFFERENCES

	ITEM	VT-262EL	VT-272EL
FEATURES	HQ (HIGH QUALITY)	USED	USED
	HiFi VHS RECORDING	NOT PROVIDED	PROVIDED
	TRICK PLAY	○ VISUAL SEARCH ○ PAUSE ○ F. ADV ○ REPEAT ○ SLOW	○ VISUAL SEARCH ○ PAUSE ○ F. ADV ○ REPEAT ○ SLOW ○ SCAN
	AUTO OPERATION ON FUNCTION	PROVIDED	PROVIDED
	NOISE LOCK SEARCH FUNCTION	PROVIDED	PROVIDED
	TIMER RECORDING PROGRAMMES	4 PROGRAMMES/14 DAYS	4 PROGRAMMES/14 DAYS
	TIMER BACK-UP POWER	PROVIDED (5 MINUTES)	PROVIDED (5 MINUTES)
	IRT (INSTANT RECORDING TIMER)	CAN SET START TIME AND LENGTH	CAN SET START TIME AND LENGTH
	MEMORY STOP (OPERATION MODE)	PROVIDED (REWIND AND FORWARD)	PROVIDED (REWIND AND FORWARD)
	ONE BUTTON RECORDING	PROVIDED	PROVIDED
	PLAYBACK PICTURE CONTROL	PROVIDED	PROVIDED
	AUTOMATIC REWIND	PROVIDED	PROVIDED
	REWIND SHUT OFF	PROVIDED	PROVIDED
	TAPE-IN INDICATOR LIGHT	PROVIDED	PROVIDED
	CHANNEL TUNING FUNCTION	VOLTAGE SYNTHESIZER (AUTO TUNING)	VOLTAGE SYNTHESIZER (AUTO TUNING)
	SLOW TRACKING CONTROL	PROVIDED	PROVIDED
	TAPE SPEED	SP: 23.3mm/sec for Recording/ Playback	VTR: 23.3mm/sec for AUDIO/ VIDEO Recording/Playback ATR: 11.7mm/sec for AUDIO Recording/Playback
	ATR/VTR SELECT SWITCH	NOT PROVIDED	PROVIDED
	PEAK LEVEL INDICATOR	NOT PROVIDED	PROVIDED
	HiFi INDICATOR	NOT PROVIDED	PROVIDED
	RECORDING LEVEL CONTROL	NOT PROVIDED	PROVIDED
	SCANA PLAY (INDICATOR/SWITCH)	NOT PROVIDED	PROVIDED
	SC (SIMULCAST)	NOT PROVIDED	PROVIDED
	HEADPHONE SOCKET	NOT PROVIDED	PROVIDED
	OUTPUT CONTROL	NOT PROVIDED	PROVIDED
	AUDIO CHANNEL SELECT SWITCH	NOT PROVIDED	PROVIDED
	AUDIO SELECT SWITCH	NOT PROVIDED	PROVIDED
	MPX FILTER	NOT PROVIDED	PROVIDED
	ALC SWITCH	NOT PROVIDED	PROVIDED
	TAPE SELECT SWITCH	NOT PROVIDED	PROVIDED

	ITEM		VT-262EL	VT-272EL
CHASSIS	BASIC CHASSIS TYPE		UY	UY
	VIDEO HEAD		3 HEADS ○ +33 μm (TRICK PLAY) ○ +65 μm/−65 μm (SP)	5 HEADS ○ +33 μm (TRICK PLAY) ○ +65 μm/−65 μm (AZIMUTH 300) For VIDEO REC/PB ○ +33 μm/−33 μm For HiFi AUDIO PB/REC
	CYLINDER MOTOR		THREE-PHASE ROTOR FG : 300H_z	THREE-PHASE ROTOR FG : 300H_z
	DEW SENSOR		NOT PROVIDED	PROVIDED
MAIN CONTROL IC_s	VIDEO SYSTEM	Y-SIGNAL PROCESS CHROMA SIGNAL PROCESS REC/PB AMP AND CORRECTOR PICTURE CONTROL	HT4728 (IC205) HT4539 (IC301) HT4757A (IC205) HA11888 (IC201) MSM6965RS (IC204)	HT4728 (IC205) HT4539 (IC301) HT4757A (IC205) HA11888 (IC201) MSM6965RS (IC204)
	LINEAR AUDIO SYSTEM	PB/REC AMP, ALC	BA5115L (IC402) NOT PROVIDED NOT PROVIDED	BA5155L (IC402) M5201LX4 (IC451L/R, IC452L/R) NJM4558SX3 (IC454L/R, IC455)
	FM AUDIO SYSTEM	GAIN CONTROL/ MODE SELECT FM AUDIO MOD./DEMOD. REC/PB AMP	NOT PROVIDED	HA12084BNT (IC504) HT6203 (IC502) HA12085NT (IC501)
	SERVO SYSTEM	SPEED/PHASE CONTROL CYLINDER MOTOR DRIVE CAPSTAN MOTOR DRIVE TRICK PLAY CONTROL	M54898AP (IC601) HA13403 (IC651) M54648L-B (IC602) M51483P (IC608)	M54898AP (IC601) HA13403 (IC603) M54648L-B (IC602) M51483P (IC605)
	SYSTEM CONTROL	SYSTEM CONTROL μP LOADING MOTOR DRIVE	HD614042SE55 (IC901) M54649L (IC902)	HD614042SE55 (IC901) M54649L (IC902)
	TIMER	TIMER μP	HD614045SE34 (IC751)	HD614045SE34 (IC751)
	CH-TUNING SYSTEM	TUNING μP BAND SWITCHING	M50161-354SP (IC801) LA7934 (IC802)	M50161-354SP (IC801) LA7934 (IC802)
	POWER SUPPLY	REGULATOR	STK5476 (IC851)	STK5476 (IC851)
	SECAM CHROMA	SECAM CHROMA SIGNAL PROCESS KEYED AGC/G-L DISCRI	TME021B (IC1301) LA7808 (IC1201) HT4402A (IC1202) μPD4053BC (IC1203) μPD4027BC (IC1303) BA4560 (IC1305) NJM4558S (IC1306)	TME021B (IC1301) LA7808 (IC1201) HT4402A (IC1202) μPD4053BC (IC1203) μPD4027BC (IC1303) BA4560 (IC1305) NJM4558S (IC1306)

① INTERRUPTEUR D'ALIMENTATION
Betriebsschalter
OPERATE SWITCH
BEDIENINGSSCHAKELAAR (MARCHE)
INTERRUTTORE "MARCHE"

② LOGEMENT DE CASSETTE
Cassettenschacht
CASSETTE COMPARTMENT
CASSETTE COMPARTIMENT
COMPARTIMENTO CASSETTA

③ TOUCHE DE RÉPÉTITION
Wiederholungstaste
REPEAT BUTTON
HERHAALTOETS (REPET)
TASTO RIPETIZIONE

④ POUSSOIR DE LECTURE
Wiedergabetaste
PLAY BUTTON
AFSPEELTOETS (LECTURE)
TASTO DI RIPRODUZIONE

⑤ INDICATEURS DE MODE
Betriebsartenanzeige
MODE INDICATORS
MODE INDIKATORS
INDICATORI DI MODO

⑥ AFFICHAGE NUMÉRIQUE
Digital-Anzeige
DIGITAL DISPLAY
DIGITALE DISPLAY
VISUALIZZATORE DIGITALE

⑦ PANNEAU INDICATEUR DE PROGRAMME
TV-Programmanzeige
CHANNEL INDICATOR DISPLAY
KANAALINDIKATIE DISPLAY
VISUALIZZATORE INDICATORE CANALE

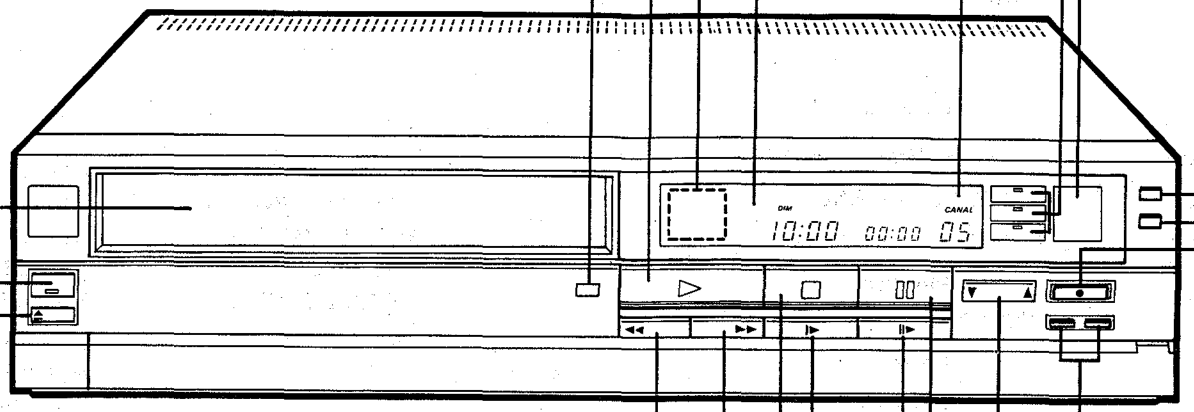
⑧ INDICATEURS DE SYSTÈME COULEUR
Farbsystem-Anzeigen
COLOUR SYSTEM INDICATORS
KLEURENSYSTEEM INDIKATORS
INDICATORI SISTEMA COLORI

⑨ SECTION RÉCEPTRICE DES RAYONS INFRAROUGES
Infrarot-Empfänger
INFRARED RAY RECEIVING SECTION
ONTVANGER VAN INFRARODE STRALEN
SEZIONE RICEVITRICE DEI RAGGI INFRAROSSI

⑩ POUSSOIR DE REMISE À ZÉRO DE COMPTEUR
Bandzählwerk-Nullstelltaste
COUNTER RESET BUTTON
NULSTELTOETS
TASTO RESET

⑪ *TOUCHE DE MÉMOIRE*
Memory-Taste (MEMOIRE)
MEMORY BUTTON
GEHEUGENTOETS (MEMOIRE)
TASTO MEMORIA

⑫ POUSSOIR D'ENREGISTREMENT
Aufnahmetaste
RECORD BUTTON
OPNAMETOETS (ENREG.)
PULSANTE DI REGISTRAZIONE



⑬ POUSSOIRS D'ENREGISTREMENT INSTANTANÉ PAR CHRONORUPTEUR (DEP)
Intervall-Timer-Tasten (DEP)
INSTANT RECORDING TIMER BUTTONS (DEP)
TIMERTOETSEN VOOR INSTANT OPNEMEN (DEP)
TASTI REGISTRAZIONE ISTANTANEA DEL TIMER (DEP)

⑭ TOUCHES DE SÉLECTION DES CANAUX
Programmwahltasten
CHANNEL SELECT BUTTONS
KANAALSELEKTIE TOETSEN
TASTI SELEZIONE CANALE

⑮ POUSSOIR DE PAUSE
Pausetaste
PAUSE BUTTON
PAUZETOETS
TASTO PAUSA

⑯ TOUCHE D'AVANCE VUE PAR VUE
Einzelbildtaste
FRAME ADVANCE BUTTON
BEELD VOOR BEELD WEERGAVETOETS
TASTO AVANZAMENTO QUADRO

⑰ TOUCHE DE RALENTI
Zeitlupentaste (RALENTI)
SLOW BUTTON
LANGZAME BEELDWEERGAVETOETS (RALENTI)
TASTO RALENTI (RALLENTAMENTO)

⑱ POUSSOIR DE MISE À L'ARRÊT
Stopptaste
STOP BUTTON
STOPTOETS
TASTO STOP

⑲ POUSSOIR D'AVANCE RAPIDE/RECHERCHE VISUELLE
Schnellvorlauf/Bildsuchlauf-Taste
FAST FORWARD/VISUAL SEARCH BUTTON
SNEL OPSPOEL/VISUELE AFTASTTOETS
TASTO AVANTI RAPIDO/RICERCA VISUALE

⑳ POUSSOIR DE REMBOBINAGE/RECHERCHE VISUELLE
Rückspul/Bildsuchlauf-Taste
REWIND/VISUAL SEARCH BUTTON
TERUGSPOEL/VISUELE AFTASTTOETS
TASTO RIAVVOLGIMENTO/RICERCA VISUAL

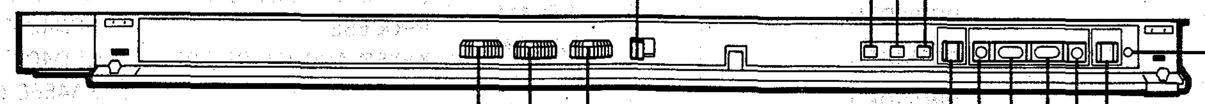
㉑ POUSSOIR D'ÉJECTION
Auswurftaste
EJECT BUTTON
UITWERPTOETS (EJECT)
TASTO "EJECT"

㉒ SÉLECTEUR CCIR (OST)/SECAM
CCIR(OST)/SECAM Wahlschalter
CCIR (OST)/SECAM SELECT SWITCH
CCIR (OST)/SECAM KEUZESCHAKELAAR
INTERRUTTORE SELEZIONE CCIR (OST)/ SECAM

㉓

PREREG.	SAUT	CAF ARRET
Programmier	Sprung	AFC aus
PRESET	SKIP	AFC OFF
PROGRAMMERING	VERSPRINGING	AFC UIT
PREREGOLAZIONE	SALTO	AFC DISINS.

㉔ COMMUTATEUR DE REMISE À ZÉRO DU PROGRAMMATEUR
Timer-Rückstelltaste
TIMER RESET SWITCH
TIMER RESET SCHAKELAAR
INTERRUTTORE PER AZZERAMENTO DEL TIMER



㉕ COMMANDE DE DÉPHASEUR VARIABLE
Zeitlupen-Spurlagenregler
TRACKING CONTROL
SPOORREGELAAR (ALIGNEMENT)
CONTROLLO "ALIGNEMENT" (ALLINEAMENTO)

㉖ RÉGLAGE D'ALIGNEMENT DE RALENTI
Zeitlupen-Spurlagenregler
SLOW TRACKING CONTROL
LANGZAME SPOORREGELAGE
CONTROLLO ALLINEAMENTO RALLENTATO

㉗ RÉGLAGE D'IMAGE
Bildregler
PICTURE CONTROL
BEELD-REGELAAR
CONTROLLO IMMAGINE

㉘

PROG.
Programmierung
PROGRAMME
PROGRAMMERING
PROGRAMMAZIONE

MEMO
Speicher
STORE
OPSLAG
MEMORIA

MONTRE	REG (+, −)	ANNUL
Zeit-Einstellung	Einstellung (+, −)	Eingabe löschen
CLOCK	SET (+, −)	CLEAR
KLOK-INSTEL	INSTEL (+, −)	WIS
REGOLAZIONE ORA	REGOLAZIONE (+, −)	CANCELLAZIONE

㉙ PRISE DE
CANAL PL
CANAL PL
CANAL PL
SPINA "C

㉚ R
R
V
V

R

㉞ PRISE PE
EURO-Bu
EURO JA
EURO AA
PRESA EU

㉟ INTERRU
Summer-
BUZZER
ZOEMER
INTERRU

⑦ **PANNEAU INDICATEUR DE PROGRAMME**
TV-Programmanzeige
CHANNEL INDICATOR DISPLAY
KANAALINDIKATIE DISPLAY
VISUALIZZATORE INDICATORE CANALE

⑨ **SECTION RÉCEPTRICE DES RAYONS INFRAROUGES**
Infrarot-Empfänger
INFRARED RAY RECEIVING SECTION
ONTVANGER VAN INFRARODE STRALEN
SEZIONE RICEVITRICE DEI RAGGI INFRAROSSI

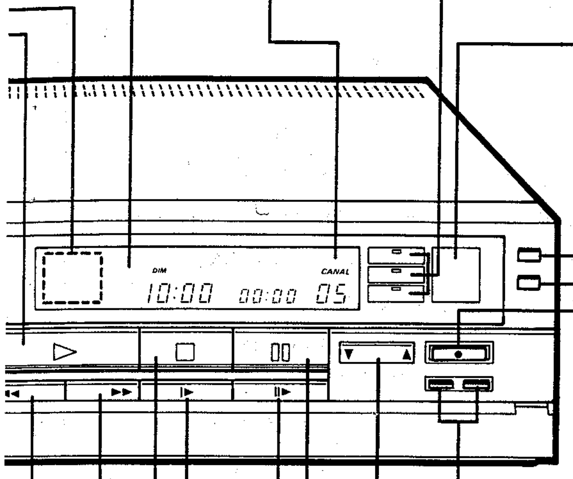
E NUMÉRIQUE
zeige
ISPLAY
DISPLAY
ZATORE DIGITALE

⑧ **INDICATEURS DE SYSTÈME COULEUR**
Farbsystem-Anzeigen
COLOUR SYSTEM INDICATORS
KLEURENSYSTEEM INDIKATORS
INDICATORI SISTEMA COLORI

⑩ **POUSSOIR DE REMISE À ZÉRO DE COMPTEUR**
Bandzählwerk-Nullstelltaste
COUNTER RESET BUTTON
NULSTELTOETS
TASTO RESET

⑪ **TOUCHE DE MÉMOIRE**
Memory-Taste (MEMOIRE)
MEMORY BUTTON
GEHEUGENTOETS (MEMOIRE)
TASTO MEMORIA

⑫ **POUSSOIR D'ENREGISTREMENT**
Aufnahmetaste
RECORD BUTTON
OPNAMETOETS (ENREG.)
PULSANTE DI REGISTRAZIONE



⑬ **POUSSOIRS D'ENREGISTREMENT INSTANTANÉ PAR CHRONORUPTEUR (DEP)**
Intervall-Timer-Tasten (DEP)
INSTANT RECORDING TIMER BUTTONS (DEP)
TIMERTOETSEN VOOR INSTANT OPNEMEN (DEP)
TASTI REGISTRAZIONE ISTANTANEA DEL TIMER (DEP)

OUCHE D'AVANCE VUE PAR VUE
inzelbildtaste
RAME ADVANCE BUTTON
EELD VOOR BEELD WEERGAVETOETS
ASTO AVANZAMENTO QUADRO

⑭ **TOUCHES DE SÉLECTION DES CANAUX**
Programmwahltasten
CHANNEL SELECT BUTTONS
KANAALSELEKTIE TOETSEN
TASTI SELEZIONE CANALE

⑮ **POUSSOIR DE PAUSE**
Pausetaste
PAUSE BUTTON
PAUZETOETS
TASTO PAUSA

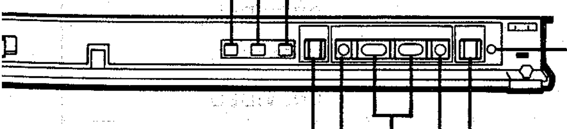
ETOETS (RALENTI)
MENTO)

EREG.
grammier
ESET
OGRAMMERING
EREGOLAZIONE

SAUT
Sprung
SKIP
VERSPRINGING
SALTO

CAF ARRET
AFC aus
AFC OFF
AFC UIT
AFC DISINS.

㉔ **COMMUTATEUR DE REMISE À ZÉRO DU PROGRAMMATEUR**
Timer-Rückstelltaste
TIMER RESET SWITCH
TIMER RESET SCHAKELAAR
INTERRUTTORE PER AZZERAMENTO DEL TIMER



㉘

PROG.
Programmierung
PROGRAMME
PROGRAMMERING
PROGRAMMAZIONE

MEMO
Speicher
STORE
OPSLAG
MEMORIA

NE

MONTRE
Zeit-Einstellung
CLOCK
KLOK-INSTEL
REGOLAZIONE ORA

REG (+, −)
Einstellung (+, −)
SET (+, −)
INSTEL (+, −)
REGOLAZIONE (+, −)

ANNUL
Eingabe löschen
CLEAR
WIS
CANCELLAZIONE

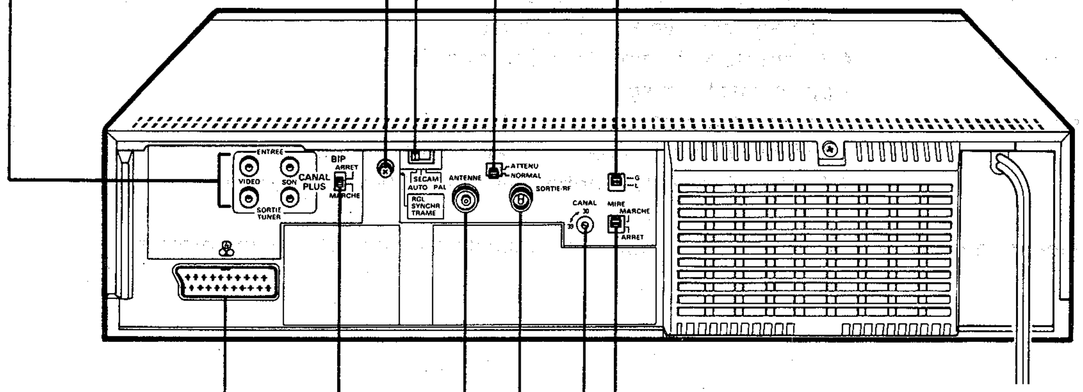
㉙ **PRISE DE CANAL PLUS**
CANAL PLUS Buchse
CANAL PLUS JACK
CANAL PLUS AANSLUITBUS
SPINA "CANAL PLUS"

㉜ **COMMUTATEUR D'ATTÉNUATION**
Dämpfungsschalter
ATTENUATOR SWITCH
ATTENUATOR SCHAKELAAR
INTERRUTTORE DI ATTENUAZIONE

㉚ **RÉGLAGE DE SYNCHRONISATION DE TRAMES**
Regler für Vertikalsynchronisierung
VERTICAL SYNC. ADJUSTMENT CONTROL
VERTIKALE SYNC. REGELAAR
(RGL. SYNCHR. TRAME.)
REGOLAZIONE SINCRONIZZAZIONE VERTICALE

㉝ **SÉLECTEUR DE SORTIE RF**
HF-Ausgang-Wahlschalter
RF OUTPUT SELECT SWITCH
RF UITGANGSKEUZESCHAKELAAR
INTERRUTTORE SELEZIONE USCITA RF

㉛ **SÉLECTEUR DE SYSTÈME COULEUR**
Farbsystem-Wahlschalter
COLOUR SYSTEM SELECT SWITCH
KLEURENSYSTEEM KEUZESCHAKELAAR
INTERRUTTORE SELEZIONE SISTEMA COLORI



㉞ **PRISE PERI**
EURO-Buchse
EURO JACK
EURO AANSLUITBUS
PRESA EURO

㊱ **PRISE D'ENTRÉE D'ANTENNE**
Antennen-Eingangsbuchse
AERIAL INPUT SOCKET
ANTENNE-AANSLUITING
PRESA INGRESSO ANTENNA

㊴ **INTERRUPTEUR MIRE MARCHE-ARRÊT**
MIRE-Ein/Aus-Schalter
TSG ON/OFF SWITCH
MIRE AAN/UIT SCHAKELAAR
(MIRE MARCHE/ARRET)
INTERRUTTORE MIRE MARCHE/ARRET

㉟ **INTERRUPTEUR DE SIGNAL SONORE**
Summer-Schalter
BUZZER SWITCH
ZOEMER SCHAKELAAR
INTERRUTTORE DEL CICALINO

㊲ **SORTIE H.F.**
HF-Ausgang
RF OUTPUT
RF UITGANG
USCITA R.F.

㊳ **RÉGLAGE DE CANAL H.F.**
HF-Kanalregler
RF CHANNEL CONTROL
RF KANAAL REGELAAR (CANAL)
REGOLAZIONE DEL CANALE RF

CONTROLS AND FUNCTIONS

1. OPERATE SWITCH
Turn system power on and off.

2. CASSETTE COMPARTMENT
Insert a cassette in through the door, and loading will be completed automatically.
Note: Power is turned on automatically when the cassette is loaded.

3. REPEAT BUTTON
Press this button after pressing the PLAY button to repeat the scene you have just viewed during playback. The tape is rewound to the position where PLAY button was pressed, then the tape is played back from that position.

4. PLAY BUTTON

5. MODE INDICATORS
- " ⌧ " appears when a cassette is in the compartment.
- " LECT. " appears during the playback mode.
- " ENREG. " appears during the record mode.
- " ◁◁ " appears during the rewind mode and flashes during rewind visual search mode.
- " ▷▷ " appears during the fast forward mode and flashes during forward visual search mode.
- " ▯▯ " appears during the play/record pause mode.
- " 🕘 " appears when turning the power off after programming the timer.

6. DIGITAL DISPLAY
This shows the time with a 24-hour display and shows the tape position.

7. CHANNEL INDICATOR DISPLAY
This shows the channel number corresponding to the channel selected.

8. COLOUR SYSTEM INDICATORS
Shows the colour system of the TV programme being received ~~or tape being~~ played back.

9. INFRARED RAY RECEIVING SECTION
Receives infrared rays from remote control unit.

10. COUNTER RESET BUTTON
To reset counter to "0000".

11. MEMORY BUTTON
Press this button so "M" is indicated in the display, then fast forward or rewind the tape. The tape stops when the counter reaches approximately "0000".
Note: Press the button again to switch off the "M" indicator.

12. RECORD BUTTON
Press RECORD button to record.

13. INSTANT RECORDING TIMER BUTTONS (IRT)
This allows unattended recording.
Timer will switch the VTR off automatically at a preselected time. This is convenient when you go out during recording.

14. CHANNEL SELECT BUTTONS
Select the channels you wish to view or record by pressing these buttons.
And you can also select the "AUX" position* by pressing this button to record or watch the programme input at the EURO jack.
* One channel position either higher or lower outside the range of your preset channels.

15. PAUSE BUTTON
Press to pause during recording.
Press to view a still picture during playback.
Press again to release.

16. FRAME ADVANCE BUTTON
When you hold FRAME ADVANCE button down during still playback mode, tape will be played back frame by frame. Operates only after PAUSE button has been pressed.

17. SLOW BUTTON
Press SLOW button during playback, and the tape is played back in the forward direction approximately 10 times slower than the normal speed.

18. STOP BUTTON
The STOP button must be pressed between "RECORD" and any other operation.

19. FAST FORWARD/VISUAL SEARCH BUTTON
Press to activate fast forward.
Press this button during playback and forward playback picture at high speed can be seen.

20. REWIND/VISUAL SEARCH BUTTON
Press to start rewind.
Press this button during playback and reverse playback picture at high speed can be seen.

21. EJECT BUTTON
Press to remove cassette. The STOP button must be pressed before "EJECT".

22. CCIR (OST)/SECAM SELECT SWITCH
Set this switch "CCIR (OST)" to record and play back a SECAM (system B/G) signal. Set to "SECAM" for a SECAM (system L) signal.

23. CHANNEL PRESET BUTTONS

24. TIMER RESET SWITCH
Press this switch if the digital display malfunctions or no display appears to reset the display. Set the correct present time for the clock then programme the timer.

25. TRACKING CONTROL
To minimize noise in playback.

26. SLOW TRACKING CONTROL
Rotate this control to minimize noise in SLOW playback.

27. PICTURE CONTROL
Adjust the picture so it is easy to see.

28. TIME SET BUTTONS

29. CANAL PLUS JACK
See page 51 for more information.

30. VERTICAL SYNC. ADJUSTMENT CONTROL
If you see vertical shaking on the TV screen in the still playback mode, rotate this control to minimize shaking.

31. COLOUR SYSTEM SELECT SWITCH
Usually set this switch to "AUTO". The unit will be set to the appropriate colour system according to the TV programme being received or the tape being played back. If the tape has been improperly recorded so that the picture on TV is distorted or loses colour, manually set the switch to PAL or SECAM.

32. ATTENUATOR SWITCH
Generally set to the NORMAL position.
Set to "ATTENU" when interference occurs in an area with a strong signal.

33. RF OUTPUT SELECT SWITCH
Set this switch to match your TV set.

34. EURO JACK
For connection with a TV with a EURO or DIN jack using an exclusive cable. See your dealer for details.

35. BUZZER SWITCH
When this switch is on, a beep sound will be heard when any VTR operation button is pressed. This is a convenience allowing you to operation.
To stop this function, turn the switch off.

36. AERIAL INPUT SOCKET
Connect external aerial.

37. RF OUTPUT
Connect to TV aerial input.

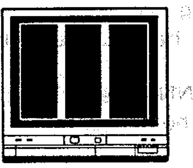
38. RF CHANNEL CONTROL
Turn TSG ON/OFF switch to "ON" and rotate this control to set the video channel correctly.

39. TSG ON/OFF SWITCH
Set to ON and check that the video channel of your TV set is correct. After setting, set this switch to OFF.

VIDEO CHANNEL SETTING

The RF converter changes the video and audio signals from a previously recorded video tape during playback to the same type of signal used for TV broadcasts. The RF converter output in this unit is pre-set prior to shipment to UHF channel 37.

1. Turn the TV on and select an unused channel (CH37) (in some cases this may be marked A/V).
2. Turn the OPERATE switch on.
3. Set the Colour system select switch to "AUTO".
4. Set the TSG ON/OFF switch to "MARCHE". Then tune the TV until the test pattern shown below is received.



5. If it is not possible to correctly tune to the test pattern or channel 37 is used for broadcasting in your area, adjust the RF converter output with the RF channel control using a small screwdriver and readjust your TV until the test pattern is observed.
For higher channel numbers, turn counterclockwise.
For a lower channel, turn clockwise.
6. Having completed the adjustment, set the TSG ON/OFF switch to "ARRET".

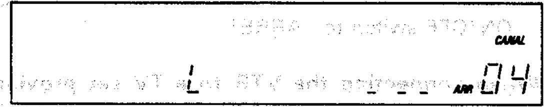
When connecting the VTR to a TV set provided with auto-tuning and the video channel cannot be set, operate as follows:

1. Remove the aerial cable from the AERIAL terminal on the VTR.
2. Leave the TSG ON/OFF switch "ARRET".
3. Playback a blank tape.
4. Press the PAUSE button to obtain the pause mode.
5. Press the Auto-tuning button.
6. Auto-tuning starts and it stops at video channel 37.
Note: The auto-tuning indicator of the TV set changes to an exact tuning indicator.
7. Set the channel memory of the TV to ON and store the channel which was set in item 6.
8. Set the TSG ON/OFF switch to "MARCHE" and check that the picture appears on the TV screen.
Now, the video channel of TV has been set properly.
9. Return the TSG ON/OFF switch to "ARRET".
10. Reconnect the aerial cable to the VTR.

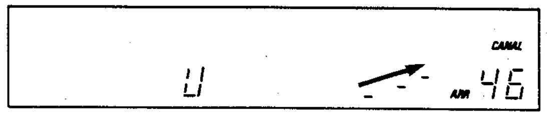
PRE-TUNING OF BUILT-IN TV TUNER

This VTR incorporates a complete television tuner with the required tuning controls. Once you have pre-tuned to preferred stations, you can select any of them by merely pressing the CHANNEL select button.

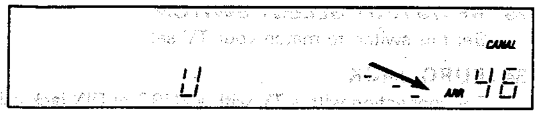
1. Turn the TV on and select the pre-tuned video channel.
2. Turn the OPERATE switch of the VTR on.
3. Set the Colour system select switch to "AUTO".
4. Open the Secondary control door to access the Pre-tuning controls.
5. Press the PRESET button once.
   The display indication changes from the clock time display to the band indicator display.
   Note: Pressing the button twice will lock the display. If you have pressed it twice, press it once more.
6. Press the CHANNEL select button on VTR to select the channel to be memorized.
   Notes:
   1. The Channel Number Display can be now consecutively selected from "00" through "73" and then "95" through "99" and "AUX" by pressing the CHANNEL select button either upward or downward. In this case, Channel Number may be any number.
   2. When "ARR" is not indicated in the display, press AFC button to display "ARR".



   For example, the above diagram shows that channel 4 has been selected.
7. Press the SET button (+) to start tuning.
   At a station that is broadcasting, the picture appears on the TV screen. If the station received is different from the channel to be preset, press SET button (+) again.
   At the next station, the searching will stop and the new station can be preset. Repeat this until the desired station is reached. By repeating this, the Band indicator on the display will change in sequence L, H, U, L....
   Notes:
   - Press SET button (+); channels are searched in the order, VHF (2 — 4) → CATV (S1 — S10) → VHF (5 — 12) → CATV (S11 — S20) → UHF (21 — 69), and "—" appears in sequence in the direction of the arrow during searching.



   - The stations are searched in the reverse way to the above description when the SET (—) button is pressed. However, since the search speed is high, none of the stations will be preset, even active stations. Use the SET (—) button to complete presetting the desired stations.



   - When a SECAM signal is searched with the Colour system select switch set to "AUTO", searching may not stop at a station transmitting a SECAM signal. In this case, set the Colour system select switch to "SECAM" and then press the SET (—) button.
8. Follow the same steps as explained in steps 6 and 7 above for other channels.
   You can preset up to 79 channels in memory.
9. After having completed tuning all channel memories you want, press the PRESET button once again.

These channels preset in memory as shown in the above can be selected by the CHANNEL select buttons on the VTR.

The provided sheet is used to list the programmes to which you pre-tune your VTR. List the programmes and paste the sheet on the side panel, etc. so as not to hinder you when you operate the VTR.

AFC (Automatic Frequency Control)

Since this unit has an AFC circuit, when a channel is preset following the above procedure, the AFC turns on automatically and you can receive the signal in optimum condition.

If a TV channel signal is marginal due to graininess or ghosting, the picture may sometimes be improved by manually tuning for best picture and then defeating the AFC action. To turn AFC off, follow the procedure below.

1. Select the desired channel by pressing CHANNEL select button.
2. Press the PRESET button once.
3. Press the AFC button. "ARR" disappears from the display.
   Note: Pressing the button once again will turn the AFC on.
4. Tap on the SET button (+ or —) alternately for fine tuning.
5. Press the PRESET button once again.

Channel selection

The channel up and down controls on the VTR permit advancing the tuner directly to the next higher or lower programmed channel.

Eliminating unwanted preset channels

You can rearrange the desired channels by eliminating unwanted preset channels for channel up/down tuning.

1. Press the PRESET button once.
2. Press the CHANNEL select buttons until an unwanted channel is found.
3. Press the SKIP button once.
   Sound will go off indicating the channel has been erased from memory.
4. Repeat steps 2 and 3 until all unwanted channels have been erased.
5. After eliminating them, press the PRESET button once again.

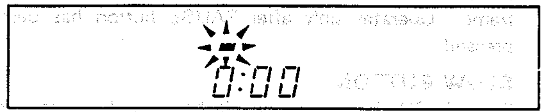
Note: To restore the erased channel, repeat the above steps 1 through 3.

CLOCK TIME SETTING

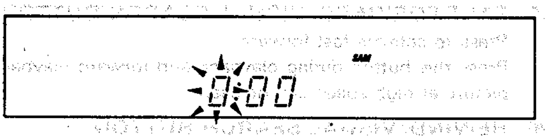
The built-in digital clock is based on a 24 hour cycle and gives you a constant readout of the time and day.

- When the MAINS lead is plugged in for the first time, "—:——" will appear on the display.

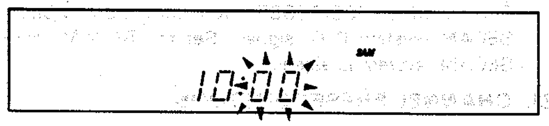
1. Press the CLOCK button.
   "DIM" flashes on and off and "0:00" lights.



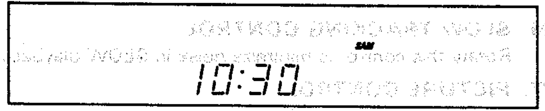
2. Press the SET button (+ or —) to select the present day of the week.
   Hold the button down to advance rapidly.
   When the present day of the week appears, press the STORE button. "0" hour starts flashing.



   For example, the above diagram shows that Saturday (SAM) has been set.
3. Press the SET button (+ or —) to set the present hour.
   Hold the button down to advance rapidly. Press the STORE button when the present hour appears.
   "00" minutes starts flashing.



   For example, the diagram shows that "10" hour has been set.
4. Press the SET button (+ or —) to set the minute.
   Hold the button down to advance rapidly. Press the STORE button when the present minute appears.



   For example, the diagram shows that "30" minutes has been set.

Now the clock has been set to the correct time of day.

Notes:

- This VTR has a built-in power failure compensation circuit. If power interruption of less than 5 minutes occurs, the clock time and programming will not be lost.
- The digital display is bright when the OPERATE switch is turned ON and automatically becomes dim when the switch is off.

RECORDING TV PROGRAMMES

- Your TV does not have to be on to make a recording because the VTR records TV programmes without the aid of your TV. Its only use is for monitoring.

1. Insert a cassette.
2. Make sure that the Colour system select switch located on the rear is set to "AUTO".
3. Select the channel to be recorded by pressing the CHANNEL select buttons.
4. Press the RECORD button. Now, recording starts.
5. After finishing recording press the STOP button.

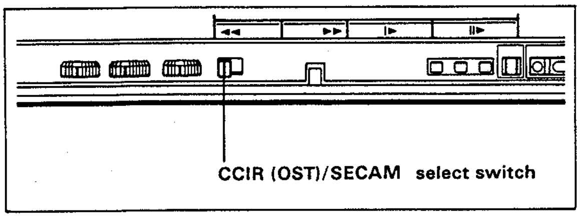
Notes:

1. If you wish to avoid recording unwanted material, press the PAUSE button. Press the PAUSE button again to release the pause mode. To prevent tape damage, do not leave the unit in the pause mode for more than 5 minutes.
2. If you want to change channels while in the record mode, press the PAUSE button then select the desired channel.
   Press the PAUSE button to release the pause mode.

To record one programme while viewing another

You can record one programme while viewing another by merely selecting the channel with your TV channel button. The recorded programme can be viewed later at your convenience.

CCIR (OST)/SECAM select switch for recording



- Set the switch to "SECAM" or "CCIR (OST)" to record a SECAM signal (system B/G) broadcast.
  Note: The tape on which a SECAM signal (system B/G) broadcast is recorded with the switch set to the "CCIR (OST)" position is not interchangeable with tapes recorded by standard SECAM-VHS recorders.
- Set the switch to "SECAM" to record a SECAM signal (system L) broadcast.
- Set the switch to any position to record a PAL signal (system B/G) broadcast.

Tape counter

This indicates the amount of video tape transported as a number.

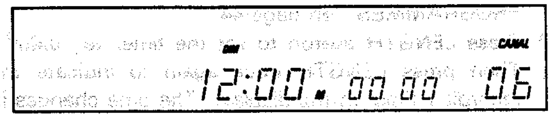
Press the RESET button to set the counter reading to "0000" when starting recording or playing back.

Note the number on the Tape counter at the beginning and end of each programme you record. This will allow you to use the counter to find the desired programme later.

Counter memory function

This is useful if there is a section of tape you want to view immediately after recording or you want to return to the same point several times.

1. Begin recording or playing back a tape.
2. At the point where you want playback to begin, reset the tape counter to "0000" by pressing the RESET button.
3. Press MEMORY button, and the "M" appears on the Display.



4. Continue to play or record.
5. Press the STOP button when recording or playback finishes.
6. Press the REWIND button.

The tape will automatically stop at the pre-selected "0000" position.

Actually, so that you won't miss the very first part of the programme to be viewed, the tape will stop slightly prior to "0000" at approximately the "9997" position.

Note: The counter memory function will also operate during fast-forwarding mode.

INSTANT RECORDING TIMER (IRT)

Instant Recording Timer allows you to make simplified timer recording without using the programme timer. There are two simplified methods as explained below.

■ FOR IMMEDIATE RECORDING

1. First perform Steps 1 through 3 of "RECORDING TV PROGRAMMES" on page 44.
2. Press LENGTH button to set the timer to "0:00". Then press LENGTH once again to indicate the recording time on the display. The time changes in hours and minutes in the order of 0:30, 1:00, 1:30, 2:00, 3:00 and 4:00 every time the button is pressed. Recording starts when 0:30 is displayed. During recording, the remaining time is displayed.
3. At the end of recording the display reads 0:00; the VTR will automatically stop recording.

Note: The IRT feature does not operate during play and after a programme timer recording has started. During rewind mode, the IRT recording will automatically start after the tape is rewound fully to the end.

■ FOR SIMPLIFIED TIMER RECORDING

1. First perform Step 1 of "FOR IMMEDIATE RECORDING".
2. Press START button to select the start time. Each press will change the clock display (the start time) by increments of 10 minutes from the nearest 10 minutes of the hour.
3. Press LENGTH button for the recording time.
   The counter display is reset to hours and minutes in the order of 0:00, 0:30, 1:00, 1:30, 2:00, 3:00 and 4:00 every time the button is pressed.
4. Press OPERATE switch off, and the " 🕘 " indication will appear on the Display. The recording will start at the time you have selected and will automatically stop when the recording time display reads "0:00".

Notes:

1. The recording time can be extended any time during IRT by pressing LENGTH button . The recording time display will be reset to 0:30, 1:00, 1:30, 2:00, 3:00 or 4:00 as selected.
2. To stop the VTR during IRT, press LENGTH button until the recording time display reads 0:00, or press OPERATE switch and the STOP button within ten seconds.
3. To change the IRT programme, the previous information must be first cleared.
4. If IRT and the programme timer recording overlap, the former will override the latter.

To recall the IRT programme

Press START or LENGTH button for recalling the start time and the recording time. In about 8 seconds the displays return to the present time of day.

Note: To recall the start time or the recording time, press LENGTH button only once. Pressing more will change the recording time and cause a need for resetting.

To cancel the IRT programme

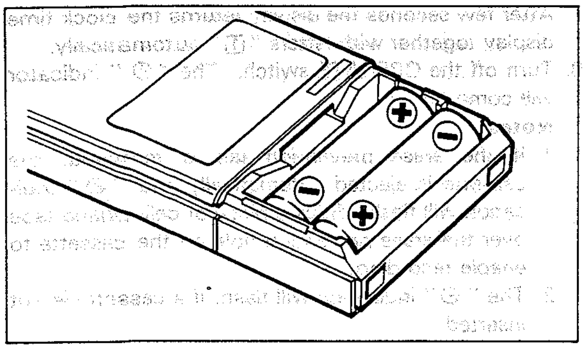
Press LENGTH button as many times as may be required to indicate "0:00" on the display. After approximately 8 seconds the display will return to the present time of day, and IRT has been now cleared.

Note: OPERATE switch may be on or off.

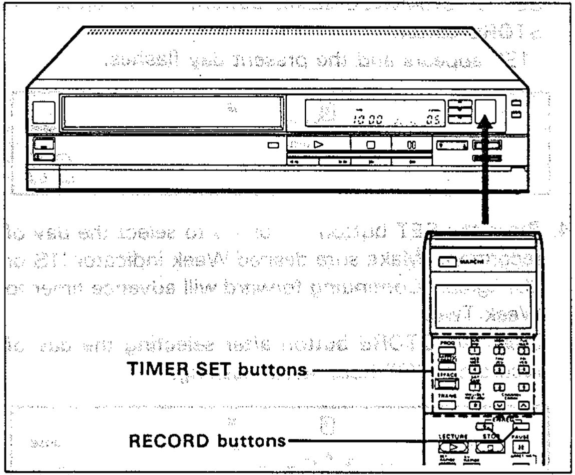
REMOTE OPERATION

You can operate the VTR from a distance using the Infrared Remote Control unit which performs the same functions as the corresponding buttons on the VTR — except for its TIMER SET and RECORD buttons.

Power source of infrared remote control unit
The infrared remote control unit is powered by two batteries (size IEC standard R6). The life of the batteries is about a year although it depends on the numbers of times the unit is used. Replace the batteries when operation is not possible or when the distance becomes too small.



Operation of remote control
To use the infrared remote control unit aim it at the receiver on the front panel of the VTR.



Notes:

1. See the supplement manual for more information on using TIMER SET buttons.
2. Press RECORD buttons simultaneously on the remote control unit to record.
3. The infrared rays will bounce off the walls and eventually reach the receiver on the VTR, but for best results transmit rays directly to the receiver.

TIMER RECORDING

(The timer can also be programmed with the remote control unit provided. See the supplement manual for more details on programming procedures with the remote control unit.)

The programmable electronic clock/timer permits the unattended recording of 4 preselected programmes within a period of 14 consecutive days, including the same programme(s) repeated on every day and the same programme(s) every week. It turns the unit on and off and selects the channel automatically.

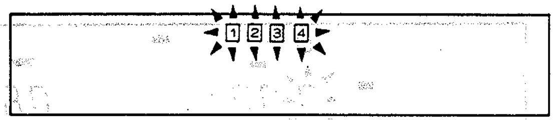
Preparations for timer recording

- Your TV does not have to be on to make a recording because the VTR records TV programmes without the aid of your TV. Its only use is for monitoring.

1. Make sure that the clock shows the present time and day correctly.
2. Insert a cassette.
   Be sure to check that the record safety tab is not missing. If the record safety tab is missing, recording will not begin.
3. Programme the timer.

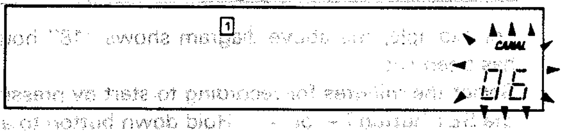
Programming the timer for unattended recording
For unattended recording the timer needs to know what **day** to make the recording, the **time to start**, the **time to stop**, and the **channel to be recorded.**
Note: If you input erroneous information by mistake when programming the timer, press the CLEAR button and input the correct information again.

1. Press the PROGRAMME button.
   Programme indicators (1 through 4) flash to indicate which memory positions have not been programmed. If a memory has been programmed, its indicator will not flash.



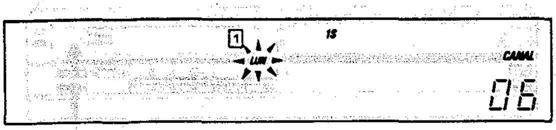
Note: You should determine which memory positions have not been programmed before entering new programming information. New information automatically erases previous programming.

2. Press the SET button (+) until the desired programme indicator lights. Programme indicators (1 through 4) light, in sequence, across top of digital display. Press the STORE button when the desired programme number is displayed. Channel number starts flashing.

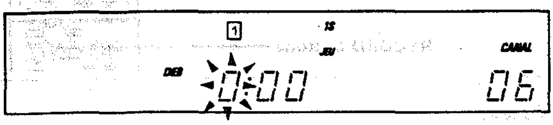


For example, above diagram shows programme "1" has been set.

3. Choose the channel to be recorded by pressing the SET or CHANNEL select button. Then press the STORE button.
"1S" appears and the present day flashes.



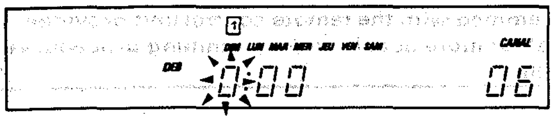
4. Press the SET button (+ or —) to select the day of recording. Make sure desired Week indicator (1S or 2S) lights. Continuing forward will advance timer to Week Two.
Press the STORE button after selecting the day of recording. "0" hour starts flashing.



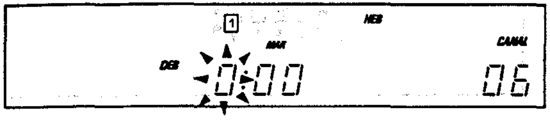
For example, above diagram shows recording on Thursday (JEU) within 1 week from today.

Notes :

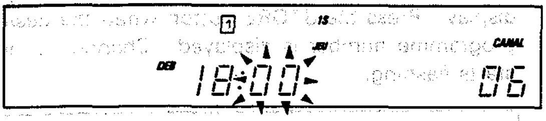
1. To record same time every day of the week:
Press the SET button (+ or —) until all day indicators light. Hold down the button to advance rapidly. Then press the STORE button.



2. To record on a specified day at the same time each week:
Press the SET button (+ or —) until the "HEB" indicator lights. Hold down the button to advance rapidly. Then press the STORE button.

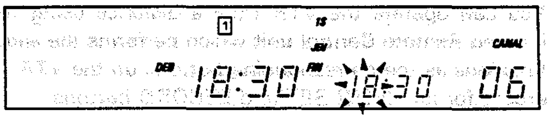


5. Select the hour for recording to start by pressing the SET button (+ or —). Hold down the button to advance rapidly.
Press the STORE button after selecting the hour for recording to start.
"00" minutes starts flashing.



For example, the above diagram shows "18" hours has been set.

6. Select the minutes for recording to start by pressing the SET button (+ or —). Hold down button to advance rapidly. Press the STORE button after selecting the minute for recording to start.
"FIN" will appear and "18" hour starts flashing.

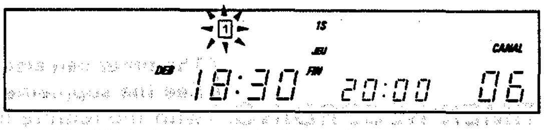


For example, the above diagram shows "30" minutes has been set.

7. Select the hour and minute to stop recording in the same procedures described in steps 5 and 6. Be sure to press the STORE button after selecting the minute.
Now, one programming has been completed.
After few seconds the display returns the clock time display together with letters "1⃞" automatically.
8. Turn off the OPERATE switch. The "◷" indicator will come on.
Notes:
1. If the erase prevention tab is removed, the cassette is ejected automatically and "◷" indication will flash. Stick a piece of cellophane tape over the erase prevention hole on the cassette to enable recording.
2. The "◷" indication will flash, if a cassette is not inserted.

To clear a programme

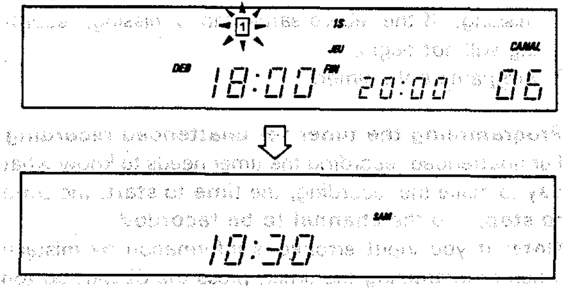
1. *Press the SET button (+) until desired programme* indicator flashes. Then start and stop time appear on the display.



2. Press the CLEAR button.
The display returns the clock time display to show that the programming has been cleared. Be sure to press the CLEAR button while the display shows the start and stop time. The programming does not clear if the CLEAR button is pressed when the display returns the clock time display.

To check programming

Press the SET button (+).
The programme indicator "1⃞" flashes. If the programme No. 1 has been already programmed, both start and stop times are displayed in a few seconds. The display then automatically returns to the present time of day.



Programming errors

If programmes overlap, the VTR will select the programme with the earliest start time. When that programme is over, the VTR will switch to the next programme. If the start times are the same, the VTR will select the programmes in numerical order.

DISASSEMBLY

1. NAMES AND LOCATIONS OF CIRCUIT BOARDS

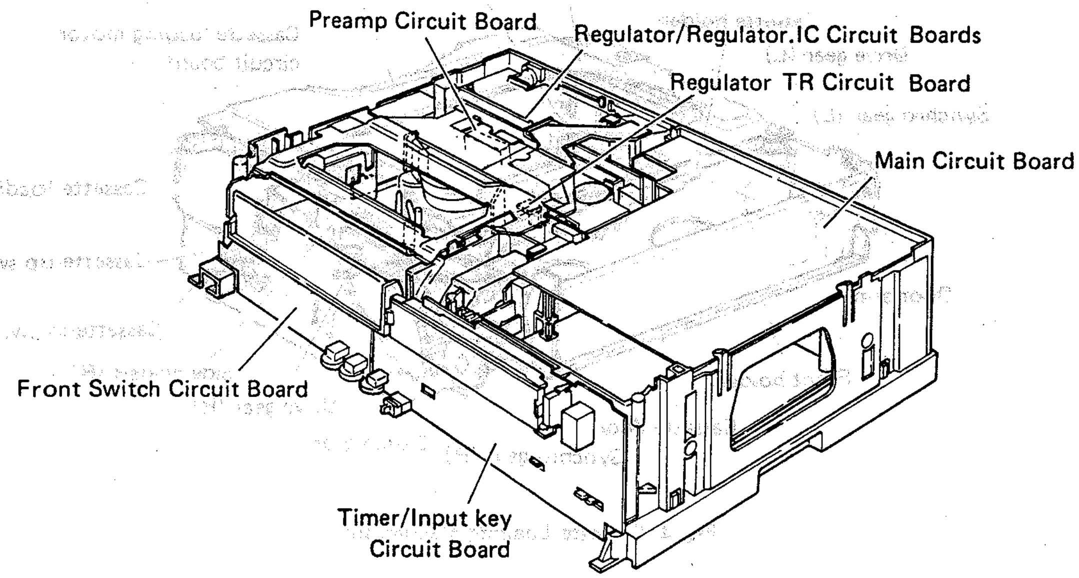

Preamp Circuit Board
Regulator/Regulator.IC Circuit Boards
Regulator TR Circuit Board
Main Circuit Board
Front Switch Circuit Board
Timer/Input key Circuit Board

Fig. 1 Top View

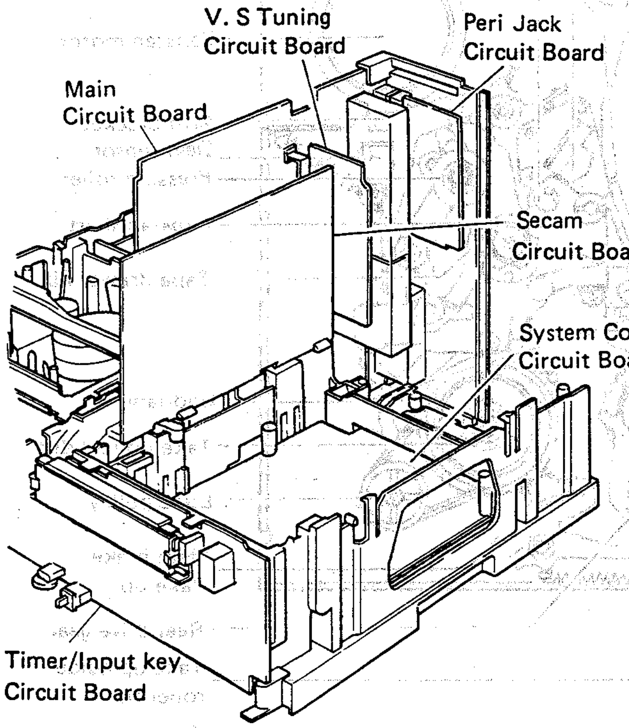

V. S Tuning Circuit Board
Peri Jack Circuit Board
Main Circuit Board
Secam Circuit Board
System Control/ Servo Circuit Board
Timer/Input key Circuit Board

Fig. 2 Top View (with main circuit board open)

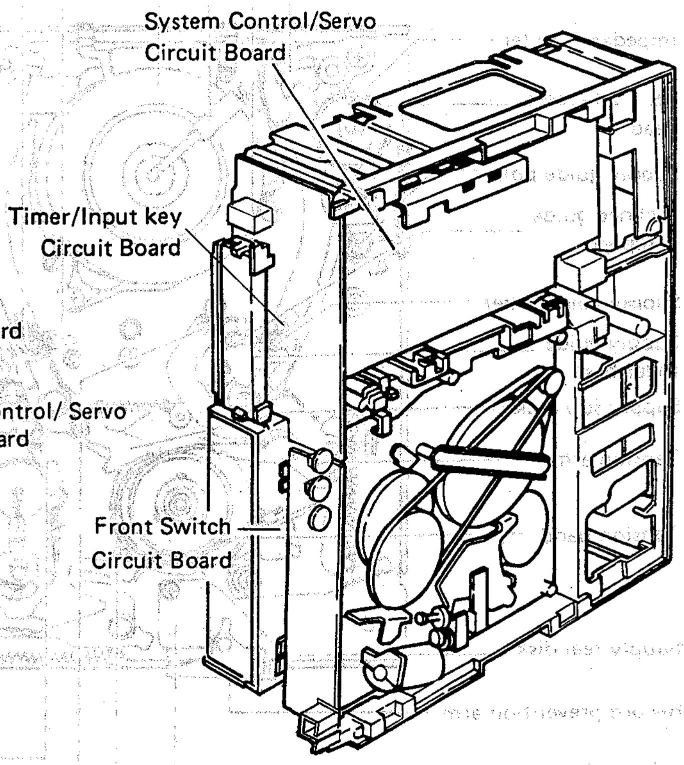

System Control/Servo Circuit Board
Timer/Input key Circuit Board
Front Switch Circuit Board

Fig. 3 Bottom View

2. NAMES AND LOCATIONS OF MECHANICAL COMPONENTS

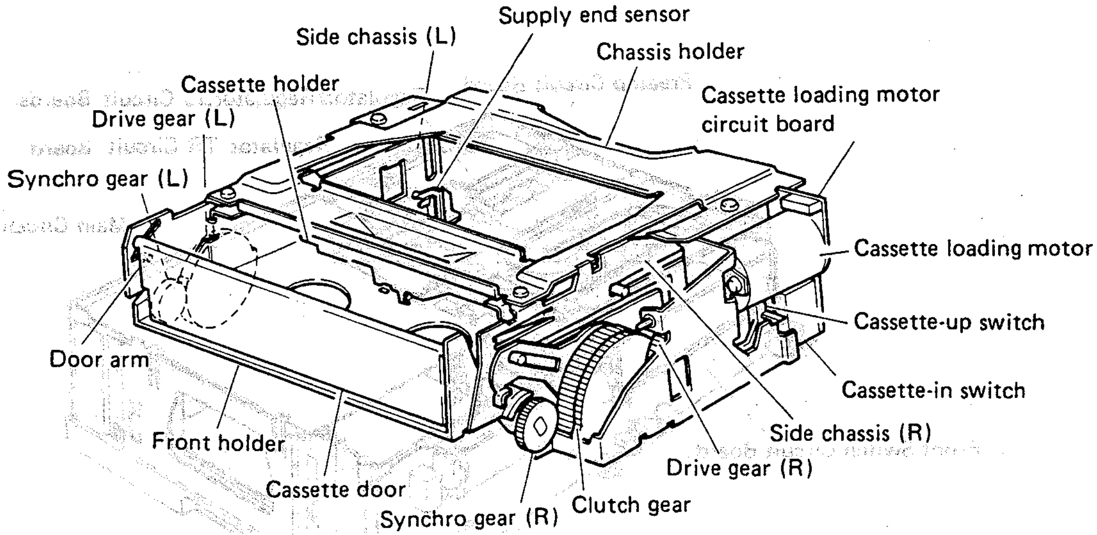

Side chassis (L)
Supply end sensor
Chassis holder
Cassette holder
Drive gear (L)
Cassette loading motor circuit board
Synchro gear (L)
Cassette loading motor
Cassette-up switch
Door arm
Cassette-in switch
Side chassis (R)
Front holder
Drive gear (R)
Cassette door
Clutch gear
Synchro gear (R)

Fig. 4 Cassette Loading Mechanism

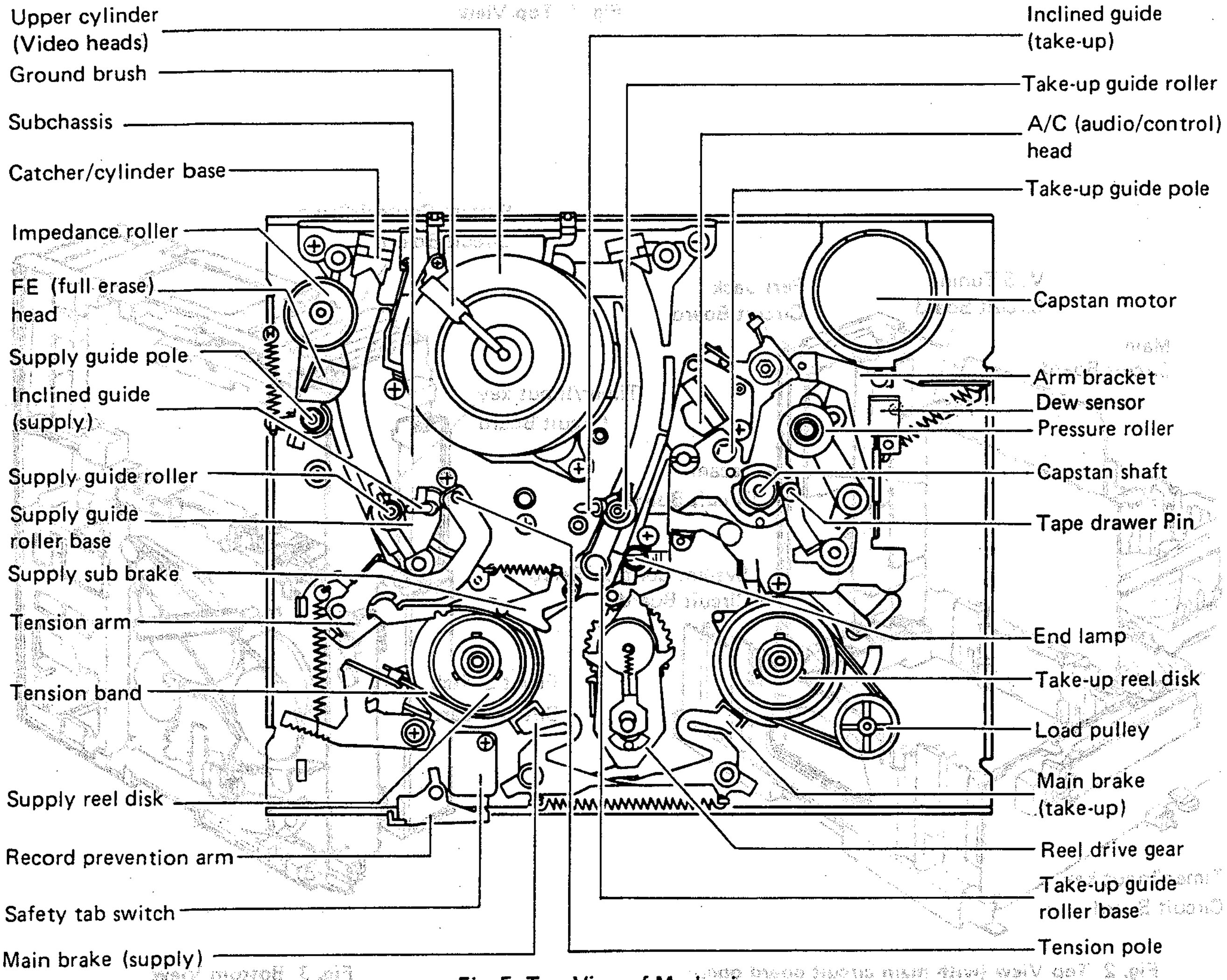

Upper cylinder (Video heads)
Ground brush
Subchassis
Catcher/cylinder base
Impedance roller
FE (full erase) head
Supply guide pole
Inclined guide (supply)
Supply guide roller
Supply guide roller base
Supply sub brake
Tension arm
Tension band
Supply reel disk
Record prevention arm
Safety tab switch
Main brake (supply)
Inclined guide (take-up)
Take-up guide roller
A/C (audio/control) head
Take-up guide pole
Capstan motor
Arm bracket
Dew sensor
Pressure roller
Capstan shaft
Tape drawer Pin
End lamp
Take-up reel disk
Load pulley
Main brake (take-up)
Reel drive gear
Take-up guide roller base
Tension pole

Fig. 5 Top View of Mechanism

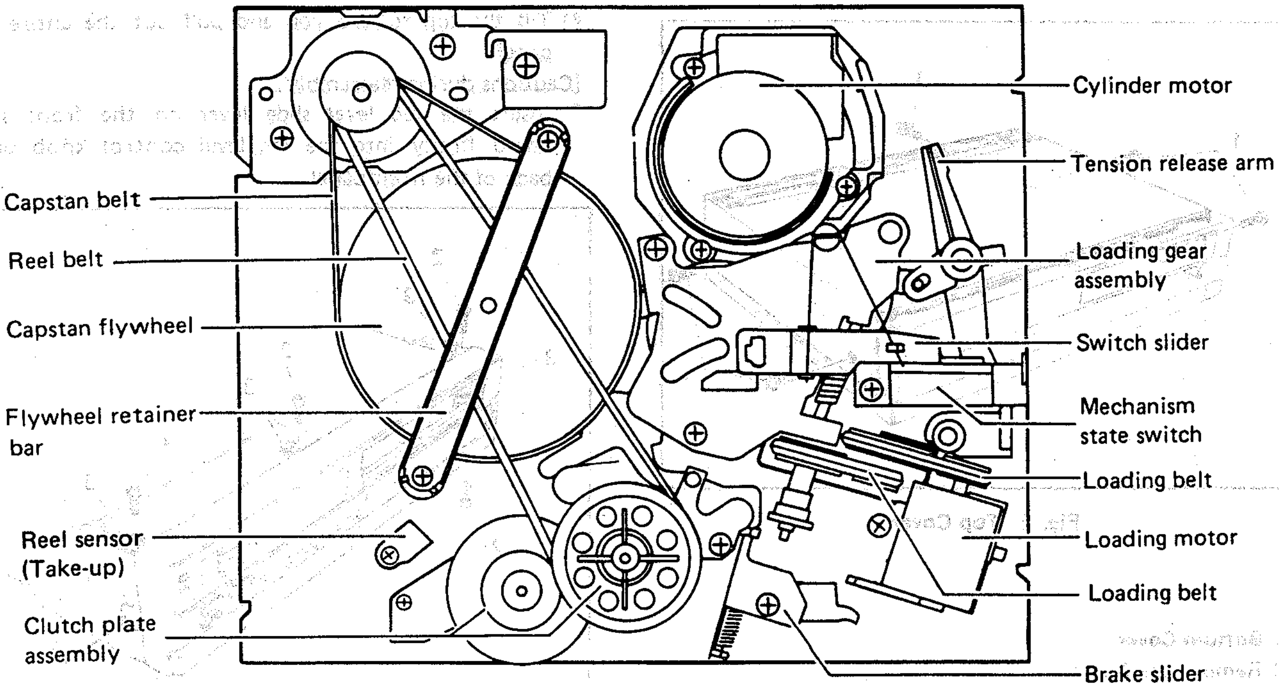

Cylinder motor
Tension release arm
Loading gear assembly
Switch slider
Mechanism state switch
Loading belt
Loading motor
Loading belt
Brake slider
Capstan belt
Reel belt
Capstan flywheel
Flywheel retainer bar
Reel sensor (Take-up)
Clutch plate assembly

Fig. 6 Bottom View of Mechanism

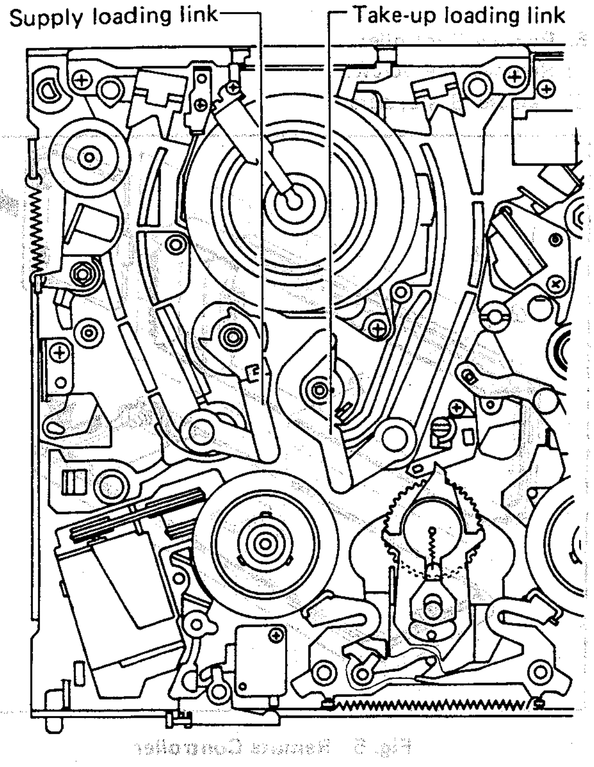

Supply loading link
Take-up loading link

Fig. 7 Top View of Mechanism (with subchassis removed)

3. CASE REMOVAL

1. **Preset door**
2. **Top cover**
3. **Bottom cover**
4. **Front panel**
5. **Remote controller**

1. Preset Door

1) Open the preset door. Press down on the attachment holder and pull outward in the direction of the arrows.

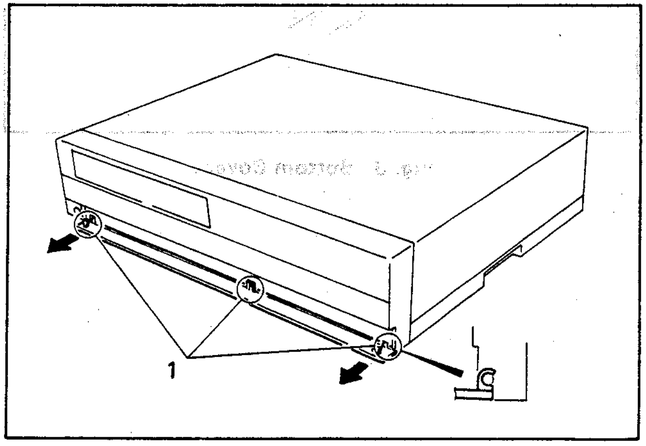


Fig. 1 Preset Door

2. Top Cover

1) Remove the 5 screws.
2) Lift the rear of the top cover upward. Slide the entire cover to the rear.

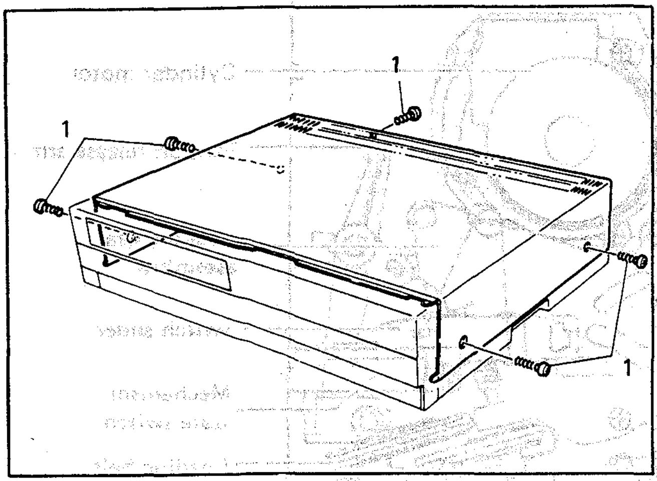


Fig. 2 Top Cover

3. Bottom Cover

1) Remove the 7 screws.

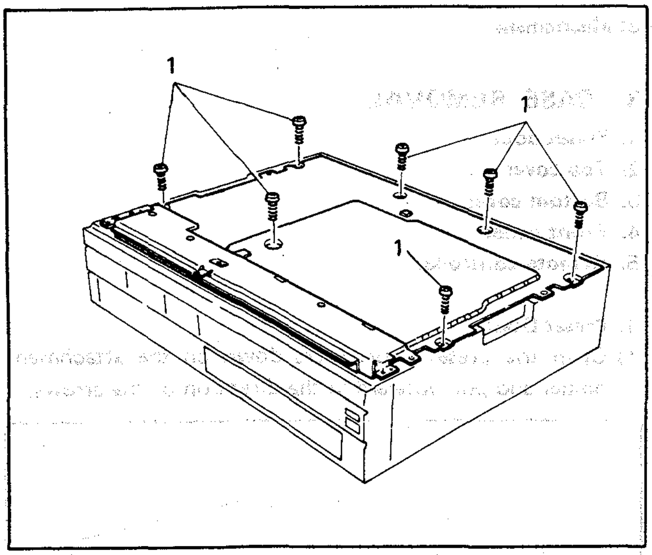


Fig. 3 Bottom Cover

4. Front Panel

1) Remove the top cover (see item 2).
2) Remove the 5 screws.
3) Release the 5 stoppers.
4) Tilt the top toward you and pull out the entire front panel.

[Cautions during reassembly]

* Insert the rec level slide lever on the front switch board firmly into the rec level control knob on the back of the front panel.

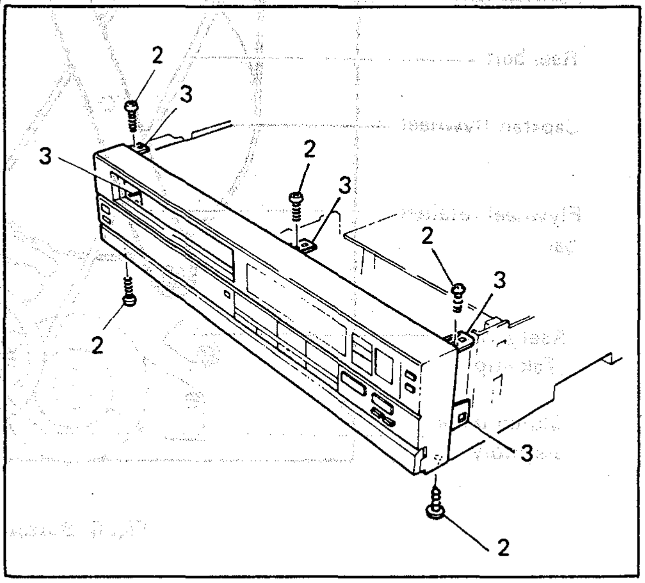


Fig. 4 Front Panel

5. Remote Controller

1) Remove the screw.
2) Release 8 stoppers.

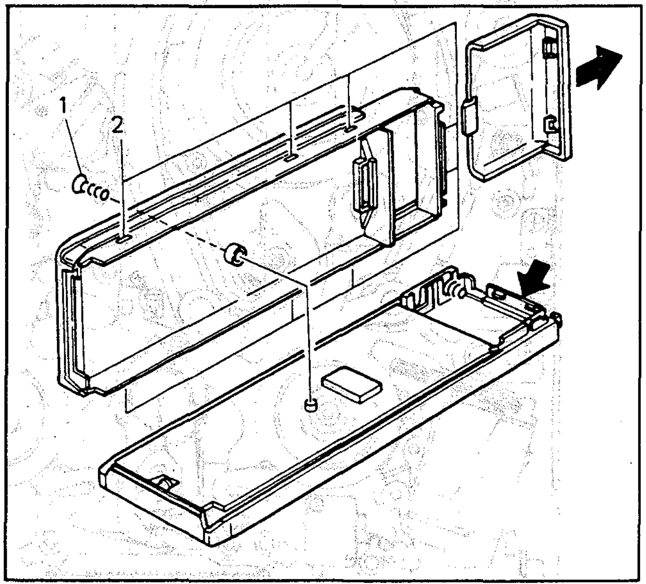


Fig. 5 Remote Controller

4. CIRCUIT BOARD REMOVAL

1. Main and Secam Circuit Boards
2. Front Switch Circuit Board
3. Timer/Input key Circuit Board
4. Regulator/Regulator·IC Circuit Boards
5. Shield Cover, Shield Plate
6. Preamp Circuit Board
7. System Control/Servo Circuit Board
8. Peri Jack Circuit Board

1. Main and Secam Circuit Boards

1) Remove the top cover (see item 2 in the section on case removal.)
2) Release the 2 stoppers.
3) Remove the 4 screws.
4) The circuit board can now be opened in the direction of the arrow. (Main circuit board)
5) Release the 2 stoppers.
6) Remove the circuit board. (Secam circuit board)

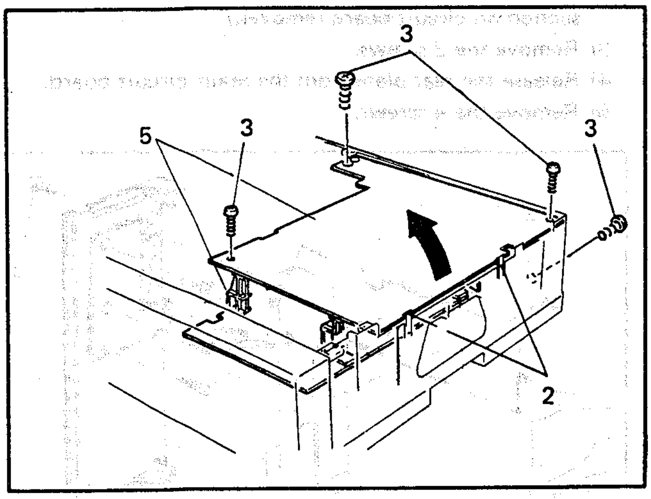


Fig. 1 Main/Secam Circui Boards

2. Front Switch Circuit Board

1) Remove the top and bottom covers and the front panel (see items 2, 3 and 4 in the section on case removal.)
2) Release the 4 upper and lower stoppers.

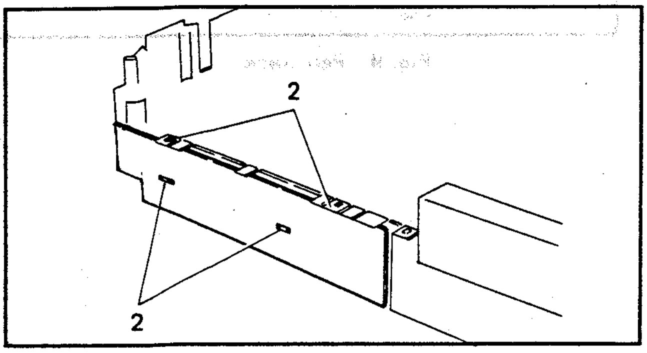


Fig. 2 Front Switch Circuit Board

3. Timer/Input key Circuit Boards

1) Remove the top and bottom covers and the front panel (see items 2, 3 and 4 in the section on case removal.)
2) Release the 4 upper and lower stoppers.

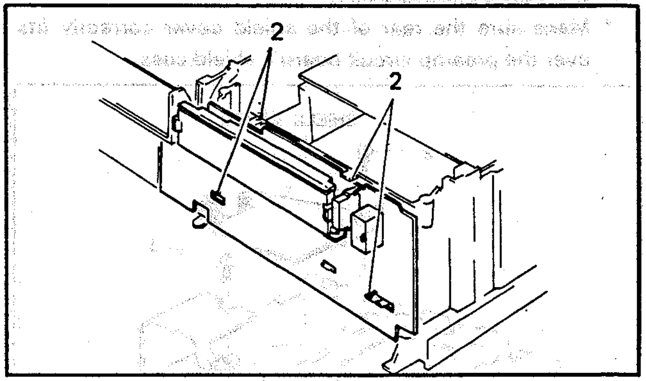


Fig. 3 Timer/Input key Circuit Board

4. Regulator/Regulator.IC Circuit Boards (Figs. 4 and 5)

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the screw from the bottom cover.
3) Remove the 4 screws on the transformer holder.
4) Lift up in the direction of the arrow.

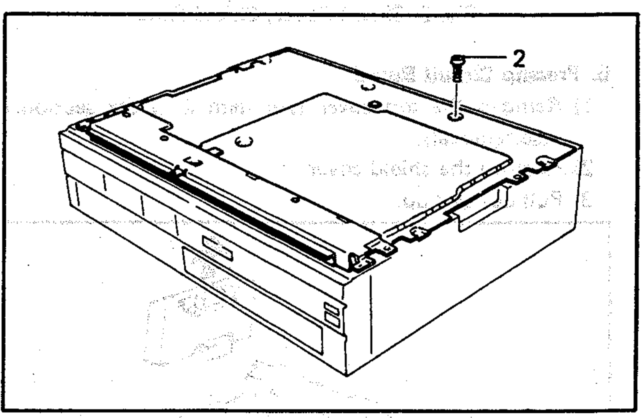


Fig. 4 Bottom Cover

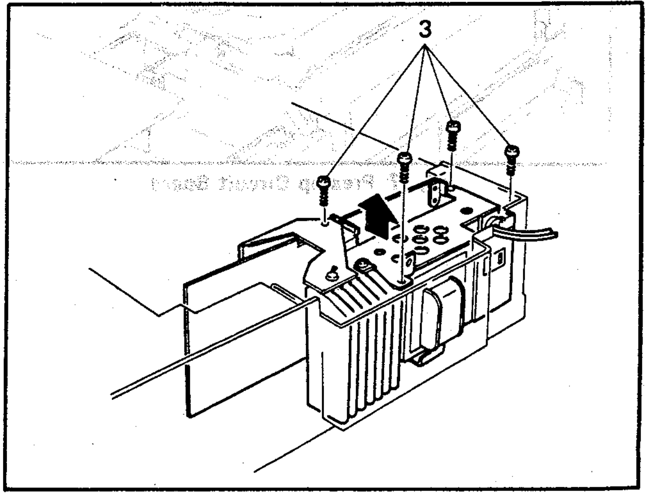


Fig. 5 Regulator/Regulator·IC Circuit Board

5. Shield Cover/Shield Plate

1) Remove the top cover (see item 2 in the section on case removal.)
2) Remove the screw holding the shield cover.
3) Remove the screw holding the shield plate.

[Cautions during reassembly]

- Make sure the rear of the shield cover correctly fits over the preamp circuit board's shield case.

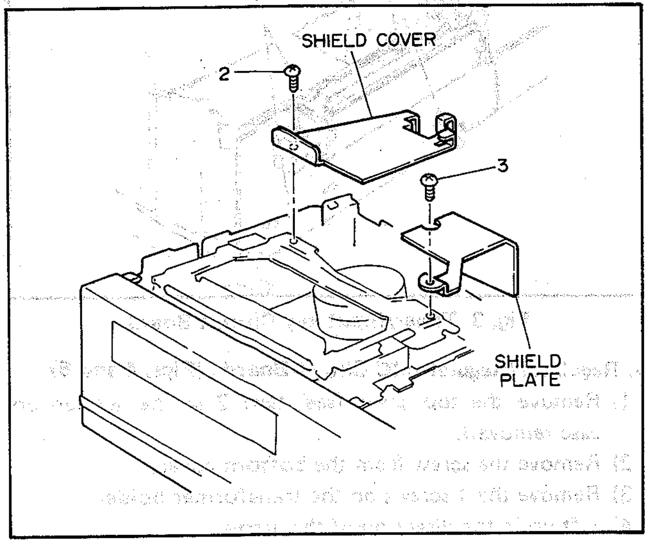


Fig. 6 Shield Cover, Shield Plate

6. Preamp Circuit Board

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the shield cover.
3) Pull out and up.

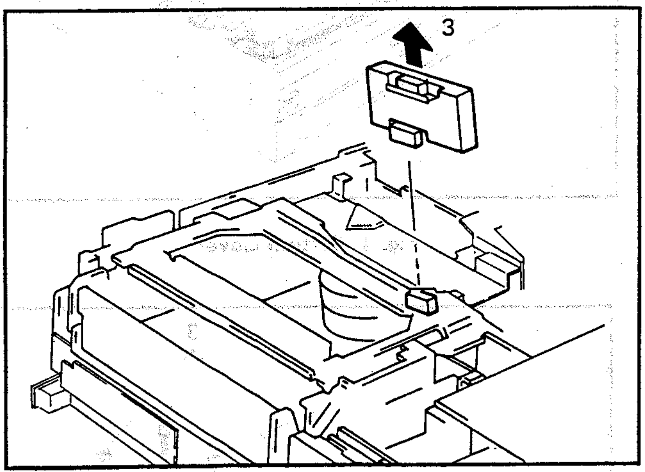


Fig. 7 Preamp Circuit Board

7. System Control/Servo Circuit Board

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Remove the reinforcing plate.
3) Remove the 4 screws.

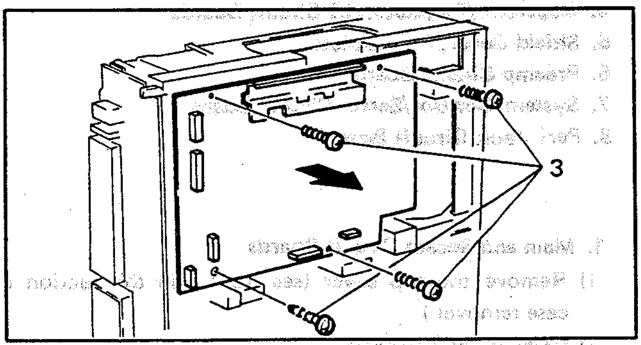


Fig. 8 System Control/Servo Circuit Board

8. Peri Jack Circuit Board

1) Remove the top cover (see item 2 in the section on case removal)
2) Remove the main circuit board (see item 1 in the section on circuit board removal.)
3) Remove the 2 screws.
4) Release the rear plate from the main circuit board.
5) Remove the 4 screws.

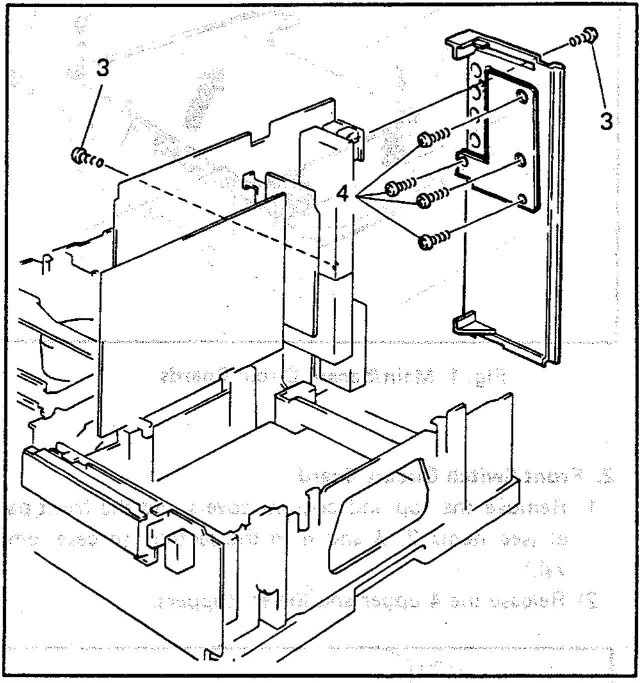


Fig. 9 Peri Jack

5. CASSETTE LOADING MECHANISM REMOVAL

1. **Cassette Door**
2. **Supply End Sensor**
3. **Chassis Holder**

* Components listed below will be described as if the top and bottom covers, front panel have already been removed. (See items 2, 3 and 4 in the section on case removal.)

4. **Cassette Loading Mechanism**
5. **Door Arm**
6. **Drive Gear (L)**
7. **Motor Block**
8. **Cassette Loading Motor**
9. **Drive Gear (R)**
10. **Cassette Holder**

1. Cassette Door

1) Remove the top and bottom covers and the front panel (see items 2, 3 and 4 in the section on case removal).
2) Push and spread apart the front holder in the direction indicated by the arrow. Remove the cassette door.

[Cautions during reassembly]

* Make sure the pin on the door arm fits into the groove in the cassette door.

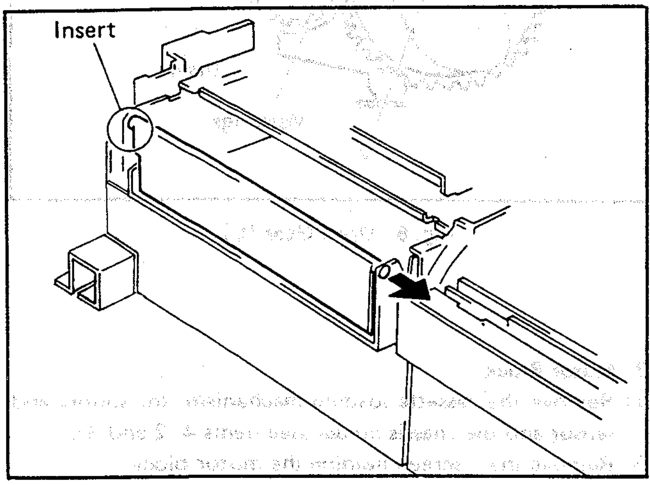


Fig. 1 Cassette Door

2. Supply End Sensor

1) Remove the top cover (see item 2 in the section on case removal).
2) Release the stopper.

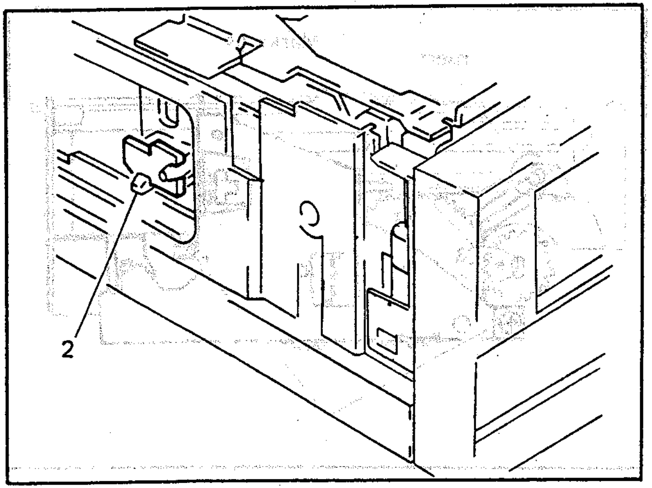


Fig. 2 Supply End Sensor

3. Chassis Holder

1) Remove the top cover (see items 2 in the section on case removal).
2) Remove the supply end sensor (see item 2).
3) Remove the shield cover and shield plate (see item 5).
4) Release the supply end sensor cord from the chassis holder.
5) Remove the 4 screws.

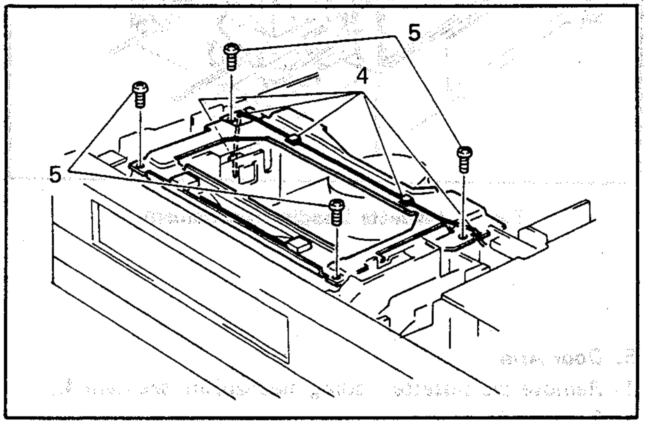


Fig. 3 Chassis Holder

4. Cassette Loading Mechanism

1) Remove the top cover and front panel (See items 2 and 4 in the section on case removal).
2) Remove the shield cover, shield plate (see item 5).
3) Disconnect the connector.
4) Remove the 2 screws.
5) Lift the rear end of the mechanism upwards and release the engagement fitting on the bottom front.

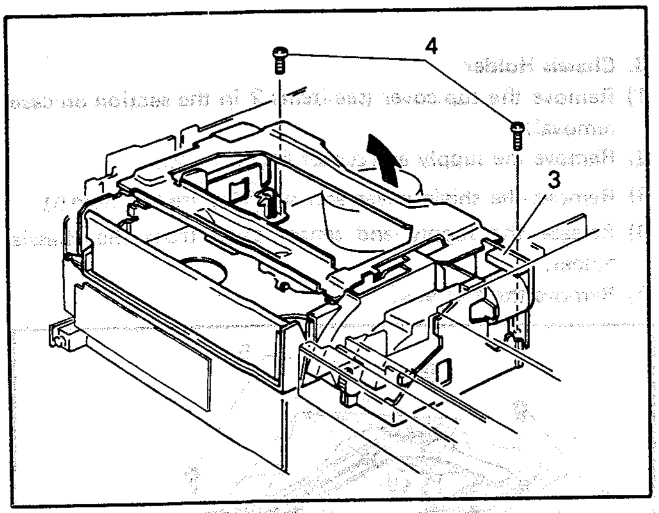


Fig. 4 Cassette Loading Mechanism

5. Door Arm

1) Remove the cassette loading mechanism (see item 4.)
2) Remove the spring.
3) Release the 2 stoppers.

[Cautions during reassembly]

* Insert the pin on the front edge of the door arm into the groove in the cassette door.

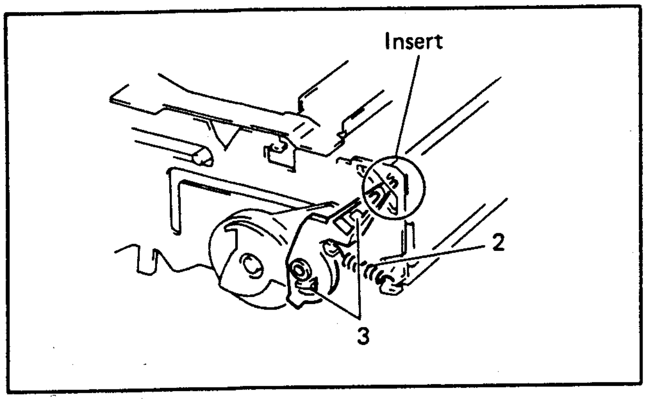


Fig. 5 Door Arm

6. Drive Gear (L)

1) Remove the cassette loading mechanism and the door arm (see items 4 and 5).
2) Release the stopper and pull out the drive gear (L).

[Cautions during reassembly]

* Align the triangular mark on the drive gear (L) with the triangular mark on the synchro gear (L).

* Insert the pin on the cassette holder into the groove in the drive arm.

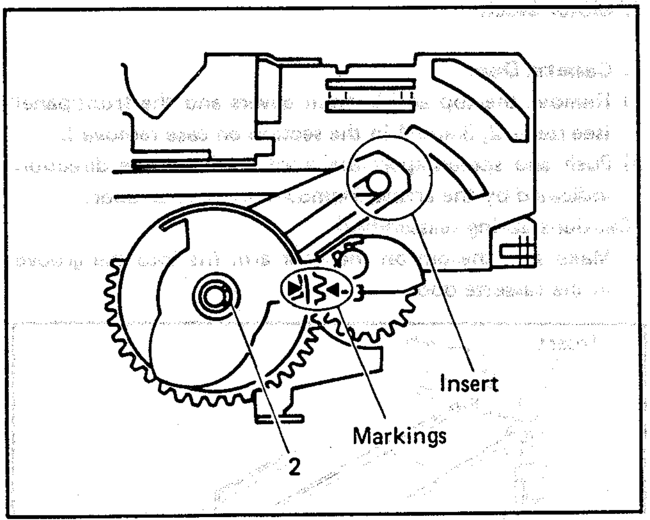


Fig. 6 Drive Gear (L)

7. Motor Block

1) Remove the cassette loading mechanism, the supply end sensor and the chassis holder (see items 4, 2 and 3).
2) Remove the 2 screws holding the motor block.

[Cautions during reassembly]

* Place the cassette holder in the unloaded position (prior to cassette insertion). Align the triangular markings on the synchro gear and the clutch gear.

* Insert the slide pin on the cassette holder into the groove in the clutch gear's drive arm.

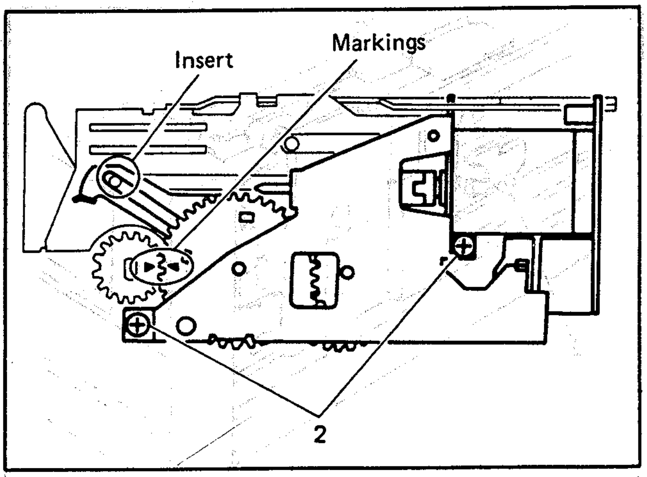


Fig. 7 Cassette Loading Motor Block

8. Cassette Loading Motor

1) Remove the cassette loading mechanism, the supply end sensor, the chassis holder and the motor block (see items 4, 2, 3 and 7).
2) Remove the 2 screws holding the cassette loading motor.

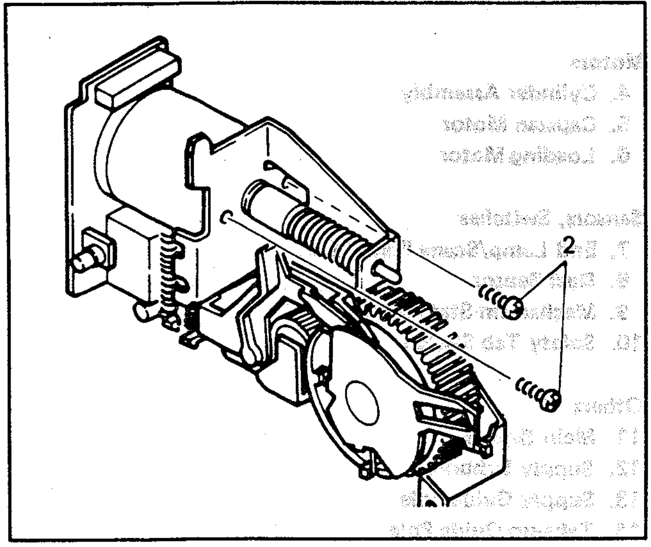


Fig. 8 Cassette Loading Motor

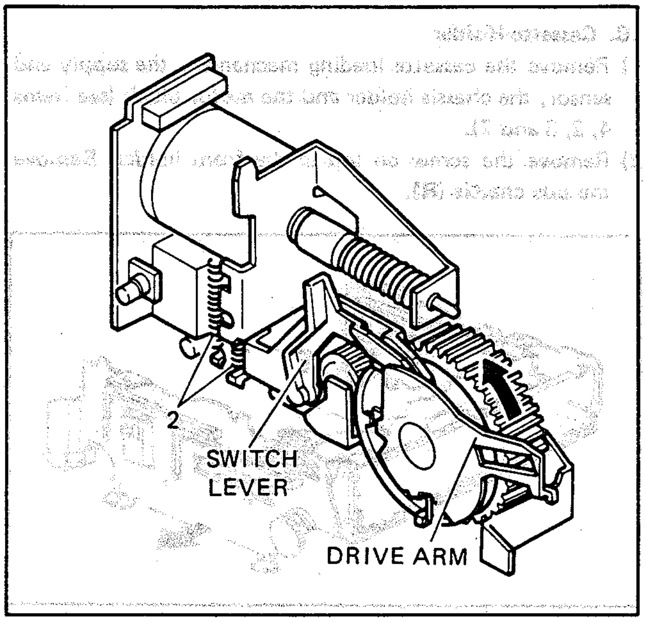


Fig. 9 Drive Gear (I)

9. Drive Gear (R) (Figs. 9, 10 and 11)

1) Remove the cassette loading mechanism, the supply end sensor, the chassis holder and the motor block (see items 4, 2, 3 and 7).
2) Remove the 2 springs. Pull the switch lever out.
3) Turn the drive arm counterclockwise and pull the clutch gear out.
4) Release the stopper. Pull out another gear.
5) Remove the screw holding the gear holder.

[Cautions during reassembly]

- * Position the triangular marking on the drive gear (R) so that it faces the worm gear. (See Fig. 10). The ○ and triangle can also be seen from the outside so that correct position can be checked after reassembling the motor block. (See Fig. 11)
- * Align marking (▷) on drive gear (R) with projection (∑) on the clutch gear. (See Fig. 10)
- * Attach the spring on the clutch gear to both gears. (See Fig. 10)

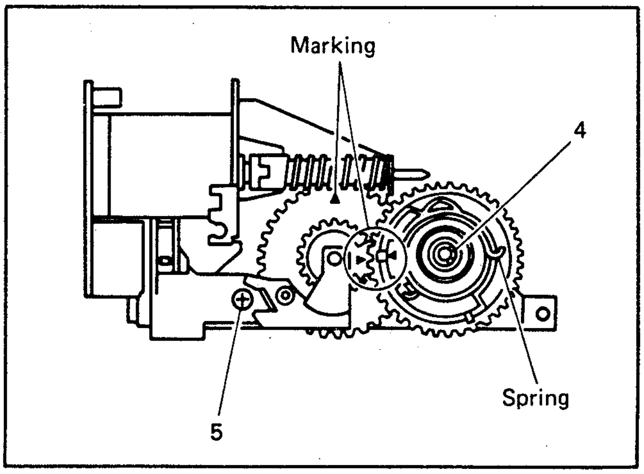


Fig. 10 Drive Gear (II)

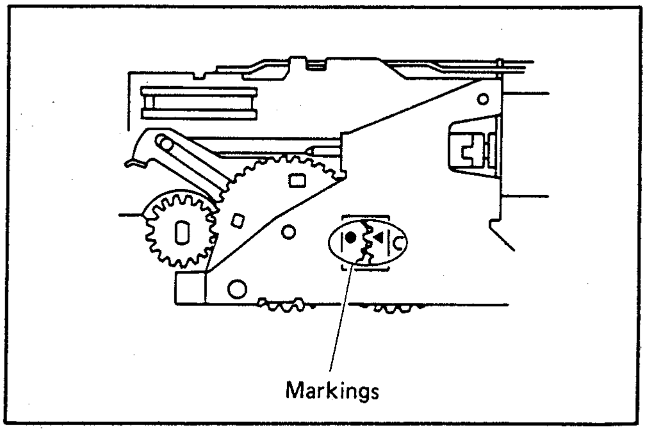


Fig. 11 Markings on Gears

10. Cassette Holder

1) Remove the cassette loading mechanism, the supply end sensor, the chassis holder and the motor block (see items 4, 2, 3 and 7).
2) Remove the screw on top of the front holder. Remove the side chassis (R).

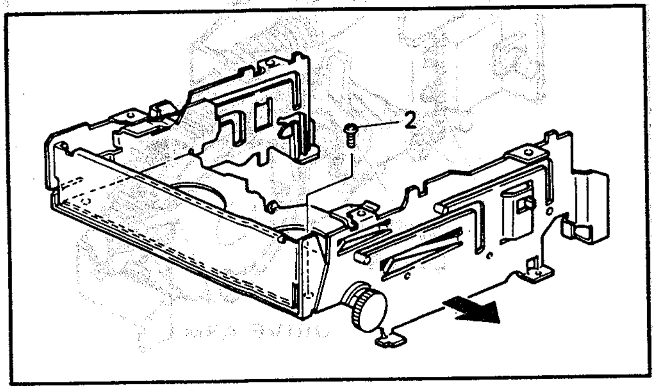


Fig. 12 Cassette Holder

6. MAIN MECHANICAL COMPONENTS REMOVAL

Heads

1. **Upper Cylinder (Video Heads)**
2. **Impedance Roller and FE (Full Erase) Head**
3. **A/C (Audio Control) Head**

Motors

4. **Cylinder Assembly**
5. **Capstan Motor**
6. **Loading Motor**

Sensors, Switches

7. **End Lamp/Scana Play Head**
8. **Reel Sensor**
9. **Mechanism State Switch**
10. **Safety Tab Switch**

Others

11. **Main Brakes**
12. **Supply Subbrake**
13. **Supply Guide Pole**
14. **Take-up Guide Pole**
15. **Reel Drive Gear**
16. **Take-up Reel Disk**
17. **Load Pulley**
18. **Tension Arm/Tension Band**
19. **Guide Roller**
20. **Supply Reel Disk**
21. **Pressure Roller**
22. **Tape Drawer Arm**
23. **Arm Bracket Assembly**
24. **Guide Base/Loading Link**
25. **Clutch Plate Assembly**
26. **Brake Slider**
27. **Capstan Flywheel**
28. **Loading Gear Assembly**

1. Upper Cylinder (Video Heads)

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the screw holding the brush.
3) Remove the 2 screws holding upper cylinder. Pull the upper cylinder out.

[Cautions while working]

- * Since the upper cylinder has connectors, do not apply pressure in the direction of rotation. Pull the cylinder vertically upward in the direction of cylinder attachment.
- * Do not touch the video head tips with fingers or tools.

[Cautions during reassembly]

- * Insert so that the arrow on the rotary transformer matches the blue side of the video head connector.
- * Alternately tighten the 2 screws holding the upper cylinder.

[Adjustments after assembly]

○ Adjustments after replacing the cylinder.

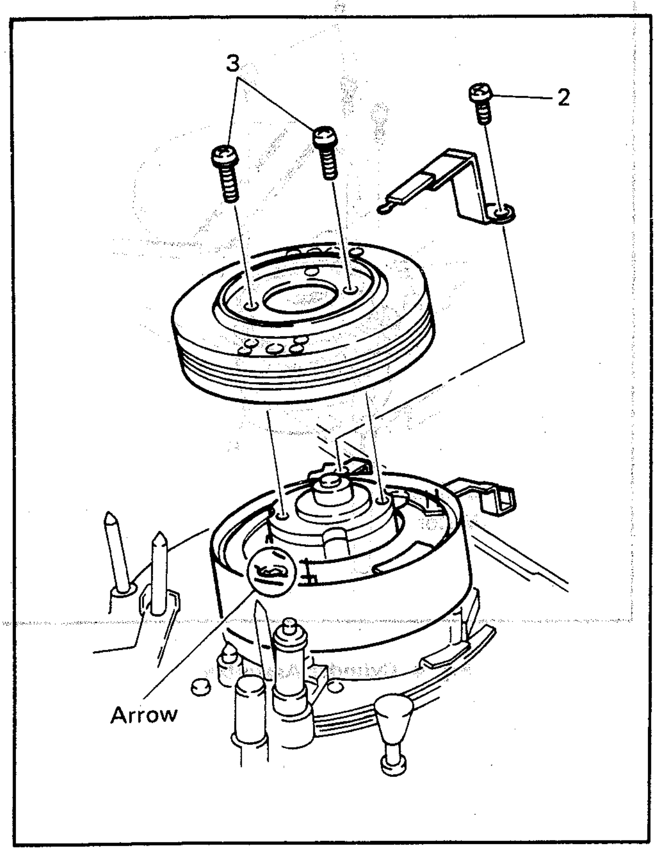


Fig. 1 Upper Cylinder (Video Heads)

2. Impedance Roller and FE (Full Erase) Head

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the shield cover/shield plate (see item 5).
3) Disconnect the connector.
4) Remove the spring attached between the FE head base and the chassis.
5) Remove the lock nut on the guide pole and then pull the guide pole, spring and washer out.
6) Pull up the FE head together with the base and out.
7) Then, with the FE head removed, remove the screw on the back of the base.

[Adjustments after reassembly]

○ Guide pole height adjustment

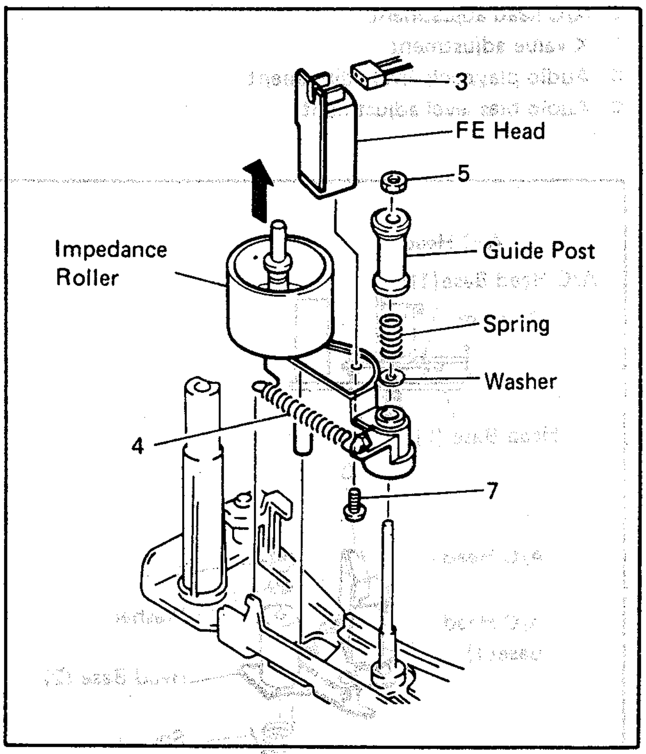


Fig. 2 Impedance Roller and FE (Full Erase) Head

3. A/C (Audio/Control) Head

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the shield cover/shield plate (see item 5).
3) Pull out the connector.
4) Remove the lock nut and washer from the head base. Pull up the base and out.

* Apply the bottom of the spring under the head base to the stopper on the chassis, the top of the spring to the stopper on the base.

[Cautions during reassembly]

* Make sure the tip of the A/C head lock screw protrudes 3 to 4 mm from the top surface of head base 1.

* Make sure that head base 1 and head base 2 are parallel.

[Adjustments after reassembly]

○ A/C head adjustment
○ X value adjustment
○ Audio playback level adjustment
○ Audio bias level adjustment

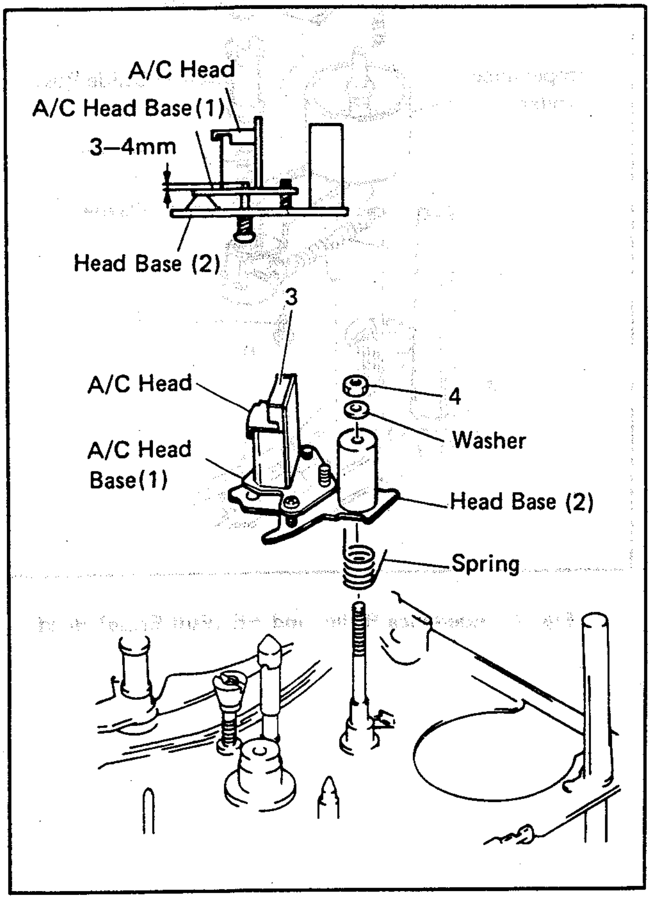


Fig. 3 A/C (Audio Control) Head

4. Cylinder Assembly

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the shield cover/shield plate (see item 5).
3) Pull out the preamp circuit board.
4) Remove the bottom cover (see item 3 in the section on case removal).
5) Disconnect the connector from the FG circuit board.
6) Remove the 3 screws holding the cylinder.
7) Remove the cylinder assembly from the top.

[Cautions during reassembly]

* Since the screws position on the back of the assembly, place the unit with the left side down to remove the screws.

* Do not touch the video head tips with fingers or tools.

[Adjustments after reassembly]

○ Adjustments after replacing the cylinder

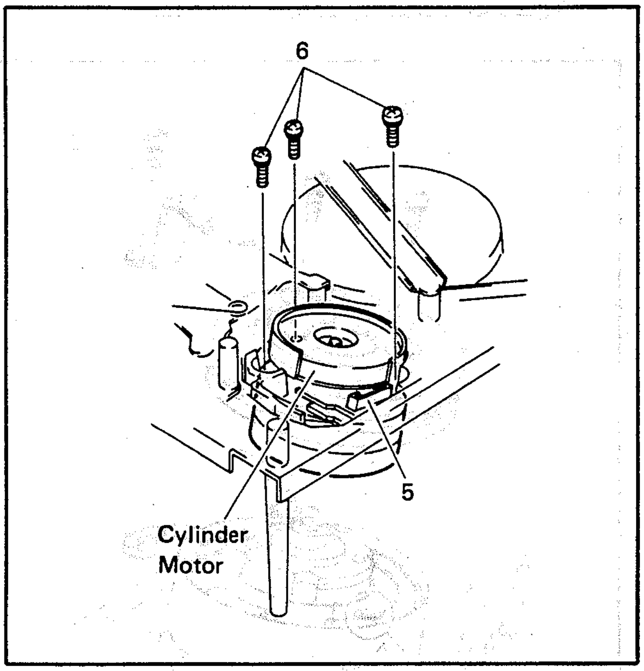


Fig. 4 Cylinder Assembly

[Removing only the rotor magnet and FG coil] (Fig. 5)

a) Remove the bottom cover (see item 3 in the section on case removal).
b) Remove the 2 screws on the rotor. Pull the rotor magnet out.
c) Remove the 3 screws holding the FG coil.

[Cautions during reassembly]

* Fit the slot on the cylinder rotating spindle into the protrusion on the rotor side, then lock the rotor magnet with the screws.

[Adjustments after reassembly]

o Switching point adjustment

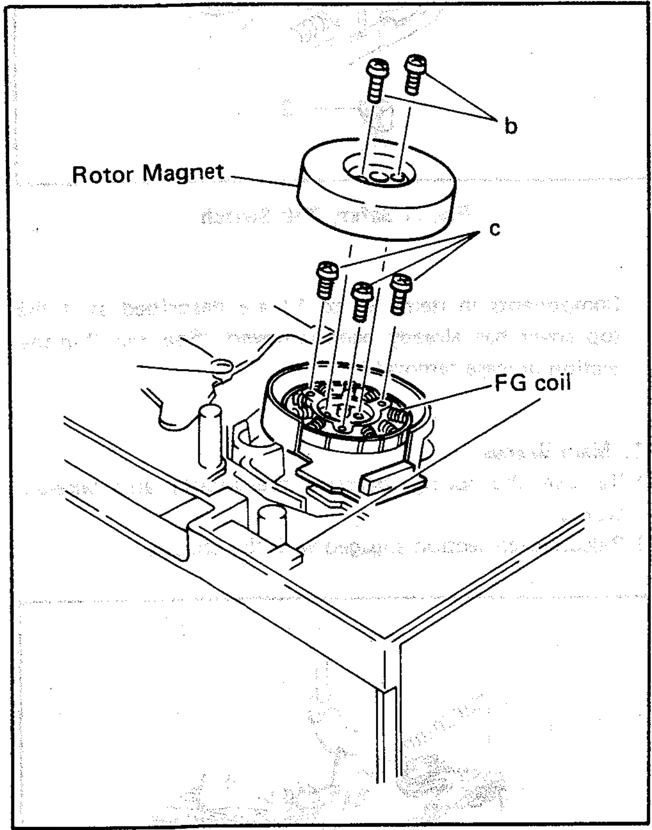


Fig. 5 Rotor Magnet and FG Coil

5. Capstan Motor

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Remove the reel belt.
3) Remove the Capstan belt.
4) Disconnect the connector from the capstan motor circuit board.
5) Remove the 2 screws holding the capstan motor holder. Pull out the capstan motor holder.

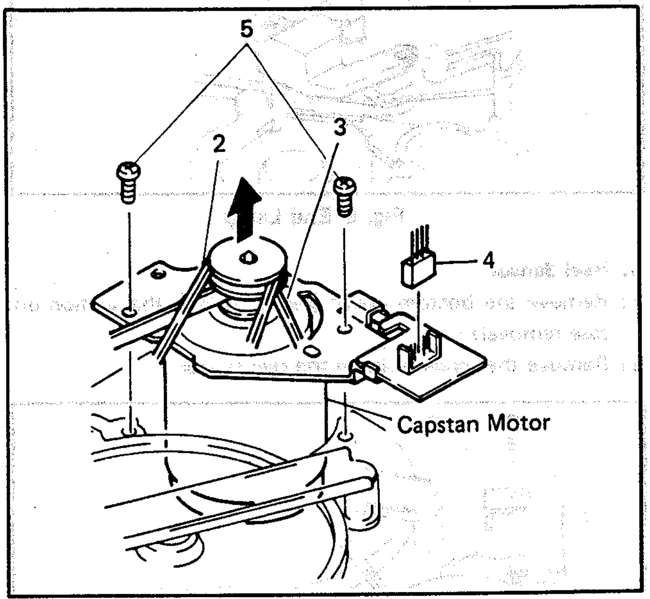


Fig. 6 Capstan Motor

6. Loading Motor

1) Remove the bottom cover (see item 3 in the section on case removal.)
2) Remove the reinforcing plate.
3) Remove the loading belt.
4) Disconnect the connector from the loading motor circuit board.
5) Remove the screw holding the loading motor.

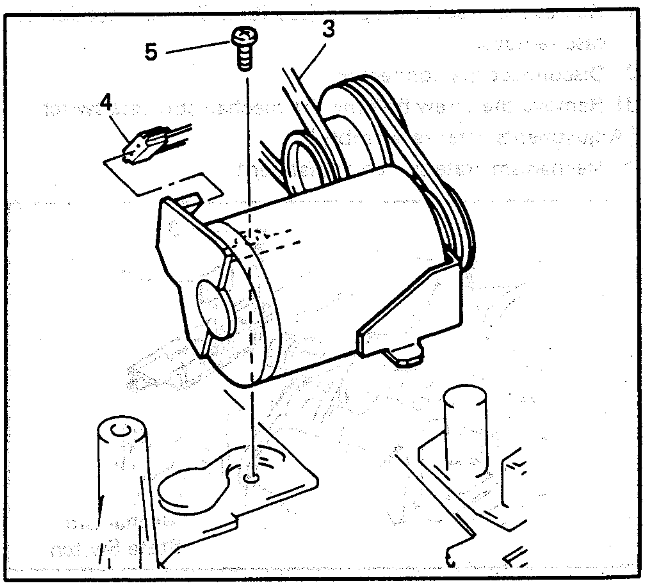


Fig. 7 Loading Motor

7. End Lamp

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the screw holding the end lamp/scana play head.

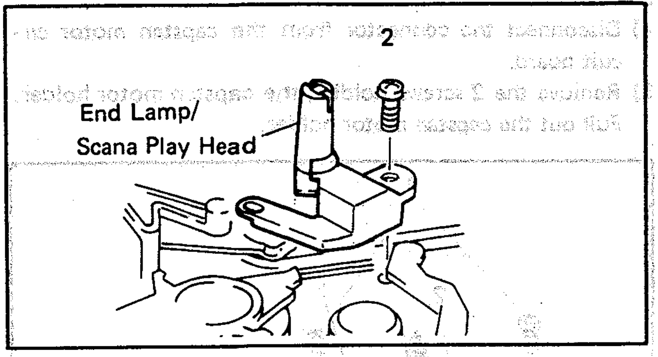


Fig. 8 End Lamp

8. Reel Sensor

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Remove the screw holding the reel sensor.

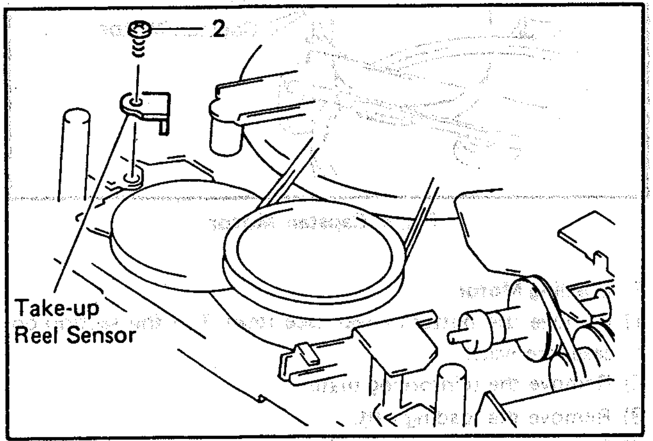


Fig. 9 Reel Sensor

9. Mechanism State Switch

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Disconnect the connector.
3) Remove the screw holding the mechanism state switch.

[Adjustments after reassembly]

o Mechanism state switch adjustment

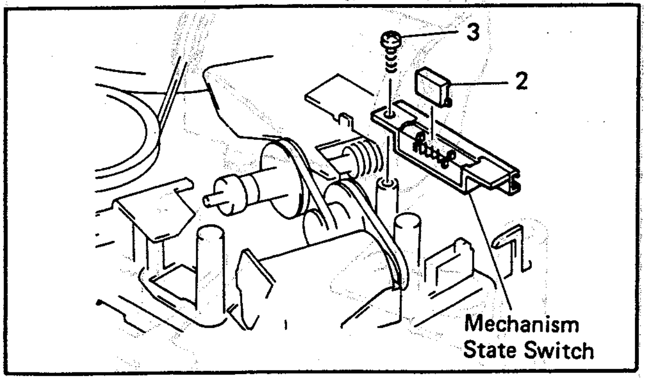


Fig. 10 Mechanism State Switch

10. Safety Tab Switch

1) Remove the top and bottom covers (see items 2 and 3 in the section on case removal).
2) Disconnect the connector from the bottom side.
3) Remove the screw holding the safety tab switch.

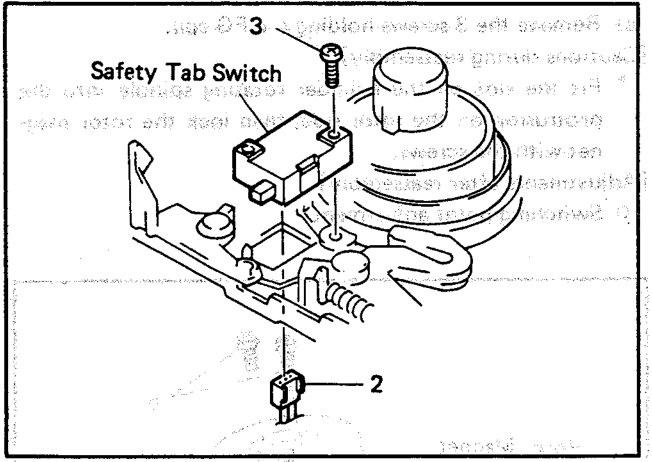


Fig. 11 Safety Tab Switch

* Components in items 11 to 17 are described as if the top cover has already been removed. (See item 2 in the section on case removal.)

11. Main Brakes

1) Remove the spring between the supply and take-up brakes.
2) Release each section engaged with the chassis.

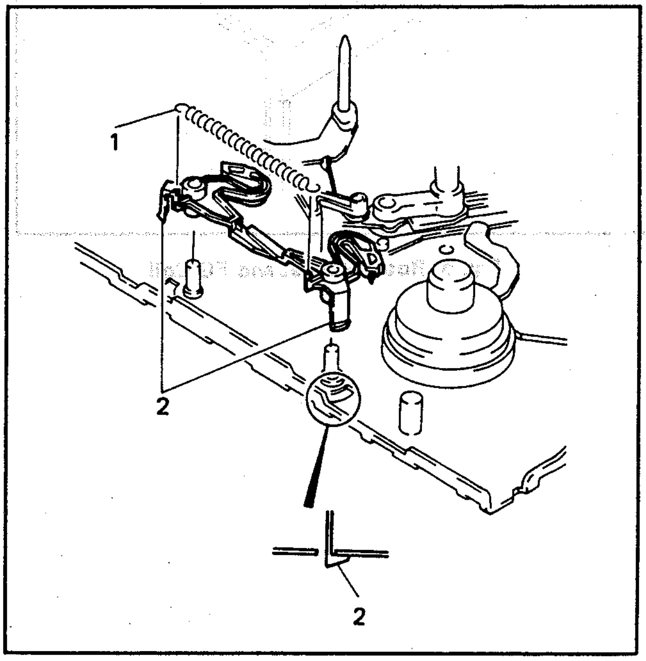


Fig. 12 Main Brakes

12. Supply Subbrake

1) Remove the spring between the subchassis and the brake.
2) Release the section engaging the brake spindle.

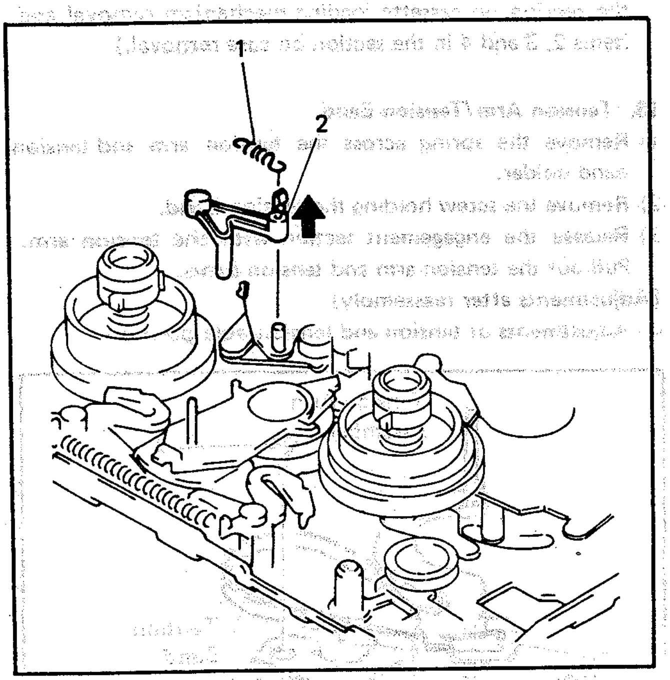


Fig. 13 Supply Subbrake

13. Supply Guide Pole

1) Remove the shield cover/shield plate (see item 5).
2) Remove the lock nut holding the guide pole.

[Cautions during reassembly]

* Make sure the washer and spring are inserted on the guide pole attachment shaft.

[Adjustments after reassembly]

o Guide pole height adjustment

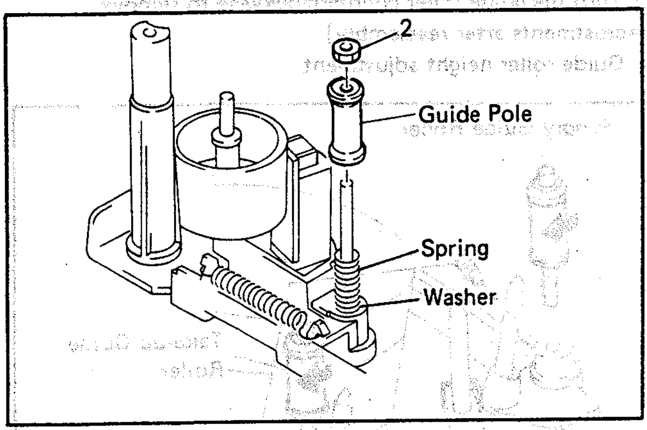


Fig. 14 Supply Guide Pole

14. Take-up Guide Pole

1) Remove the shield cover/shield plate (see item 5).
2) Remove the cap. Remove the lock nut holding the guide pole.

[Cautions during reassembly]

* Make sure the spring is inserted on the guide pole attachment shaft.

[Adjustments after reassembly]

o Guide pole height adjustment

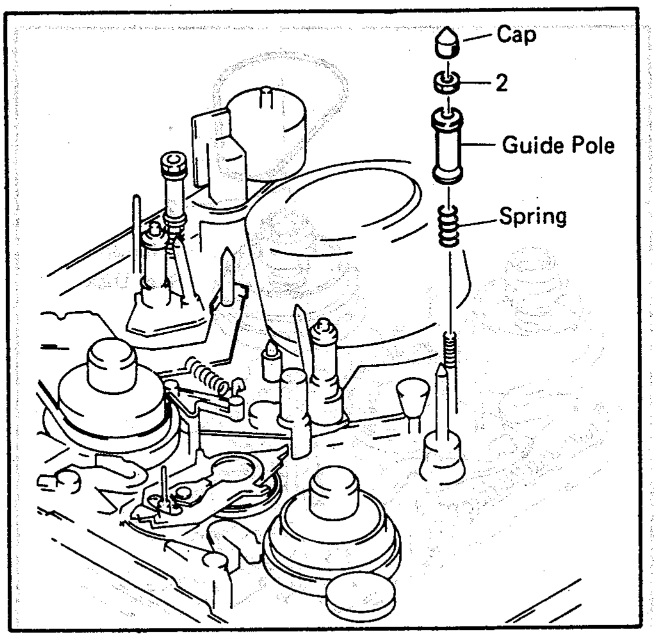


Fig. 15 Take-up Guide Pole

15. Reel Drive Gear

1) Push the spring holder in the direction of the arrow to pull the spring holder up and out.

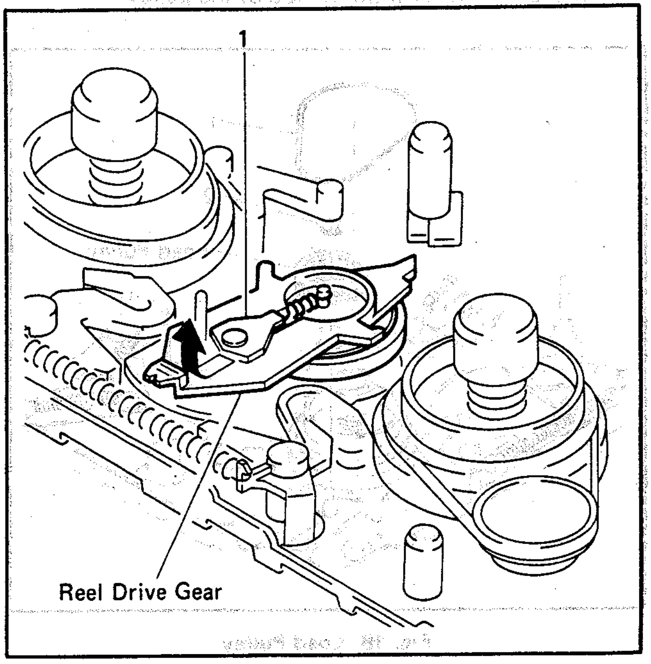


Fig. 16 Reel Drive Gear

16. Take-up Reel Disk

1) Remove the rubber belt across the load pulley and reel disk.
2) Remove the washer from the top of the disk.

[Cautions during reassembly]

* Make sure the washer is inserted on the reel disk attachment shaft.

[Adjustments after reassembly]

o Reel disk height adjustment

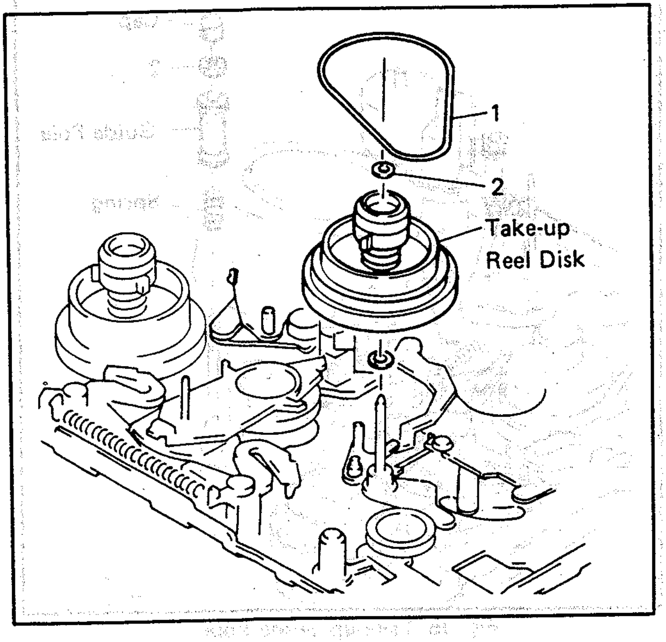


Fig. 17 Take-up Reel Disk

17. Load Pulley

1) Remove the rubber belt across the pulley and the reel disk.
2) Remove the washer from the top of the pulley.

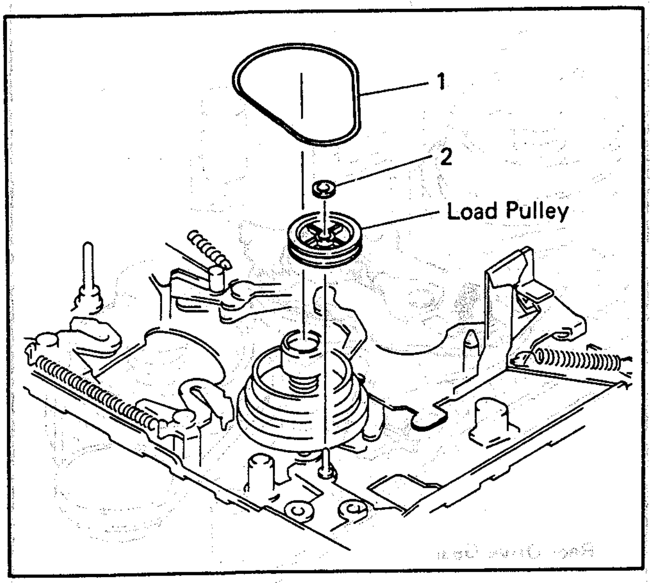


Fig. 18 Load Pulley

* Components in items 18 to 23 are described as if the top and bottom covers, the front panel and cassette loading mechanism have already been removed. (See item 4 in the section on cassette loading mechanism removal and items 2, 3 and 4 in the section on case removal.)

18. Tension Arm/Tension Band

1) Remove the spring across the tension arm and tension band holder.
2) Remove the screw holding the tension band.
3) Release the engagement section with the tension arm. Pull out the tension arm and tension band.

[Adjustments after reassembly]

o Adjustments of tension and tension pole position.

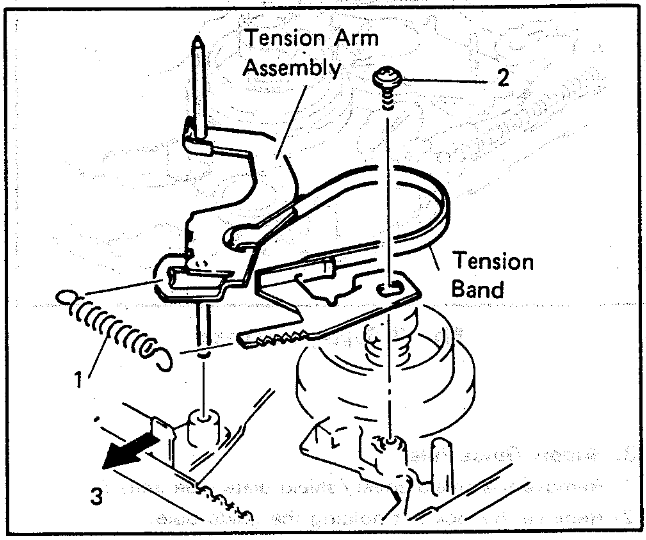


Fig. 19 Tension Arm/Tension Board

19. Guide Roller

* Remove the supply and take-up sides in the same way.

1) Loosen the hex lock nut on the guide roller.
2) Turn the guide roller counterclockwise to remove.

[Adjustments after reassembly]

o Guide roller height adjustment

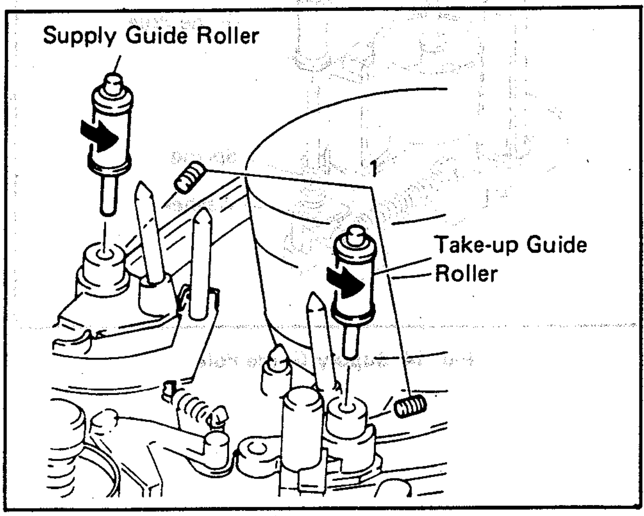


Fig. 20 Guide Roller

20. Supply Reel Disk

1) Remove the supply subbrake and tension arm/tension band (see items 12 and 18).

2) Remove the washer from the top of the disk.

[Cautions during reassembly]

* Make sure the washer and collar are inserted on the reel disk attachment shaft.

[Adjustments after reassembly]

o Adjustments of tension and tension pole position.

o Reel disk height adjustment

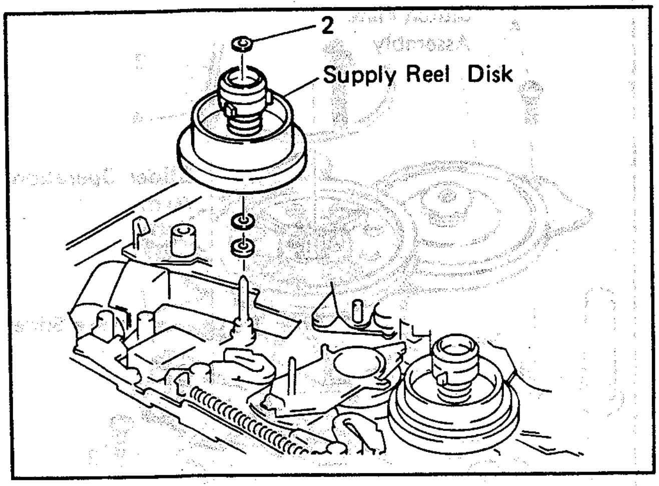

2
Supply Reel Disk

Fig. 21 Supply Reel Disk

21. Pressure Roller

1) Remove the washer.

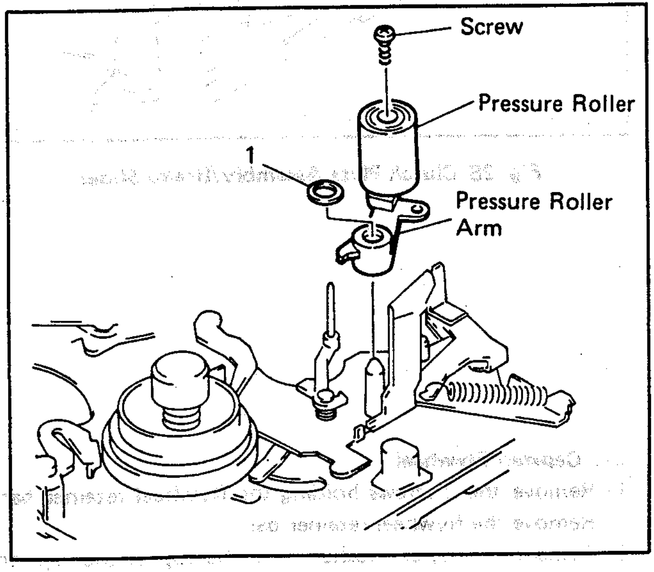

Screw
Pressure Roller
1
Pressure Roller Arm

Fig. 22 Pressure Roller

22. Tape Drawer Arm

1) Remove the washer.

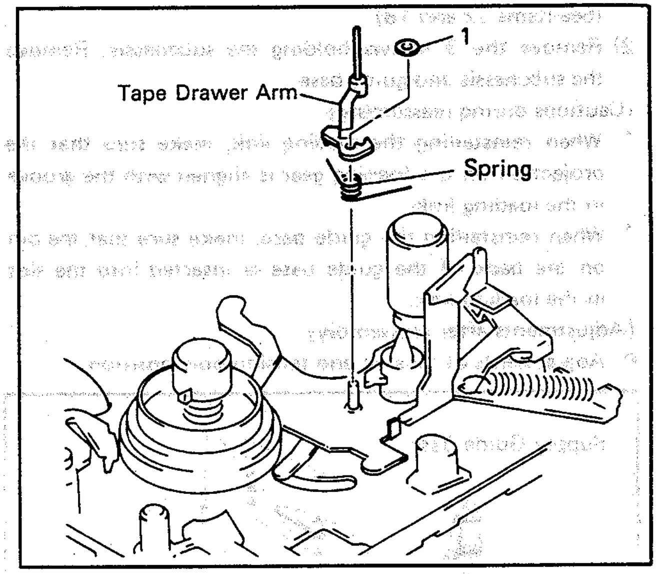

1
Tape Drawer Arm
Spring

Fig. 23 Tape Drawer Arm

23. Arm Bracket Assembly

1) Remove the take-up reel disk and pressure roller and Tape drawer arm. (see item 16, 21 and 22)

2) Release the 2 cords from the chassis.

3) Remove the 2 screws. Pull out the arm bracket assembly.

[Cautions during reassembly]

* Insert operation arm spindle into slot in take-up brake operation arm.

* Insert drive arm spindle into slot in link piece.

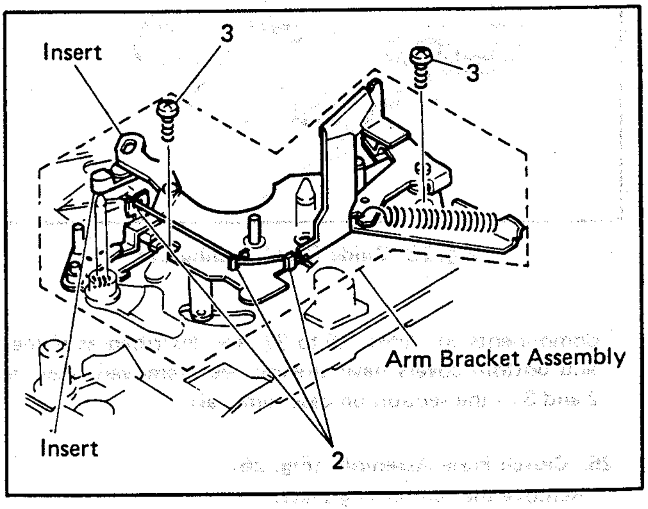

Insert
3
3
Arm Bracket Assembly
Insert
2

Fig. 24 Arm Bracket Assembly

24. Guide Base/Loading Link

1) Remove supply subbrake and tension band/tension arm. (See items 12 and 18)
2) Remove the 3 screws holding the subchassis. Remove the subchassis and guide base.

[Cautions during reassembly]

- * When reinstalling the loading link, make sure that the projection on the loading gear is aligned with the groove in the loading link.
- * When reinstalling the guide base, make sure that the pin on the back of the guide base is inserted into the slot in the loading link.

[Adjustments after reassembly]

- o Adjustments of tension and tension pole position.

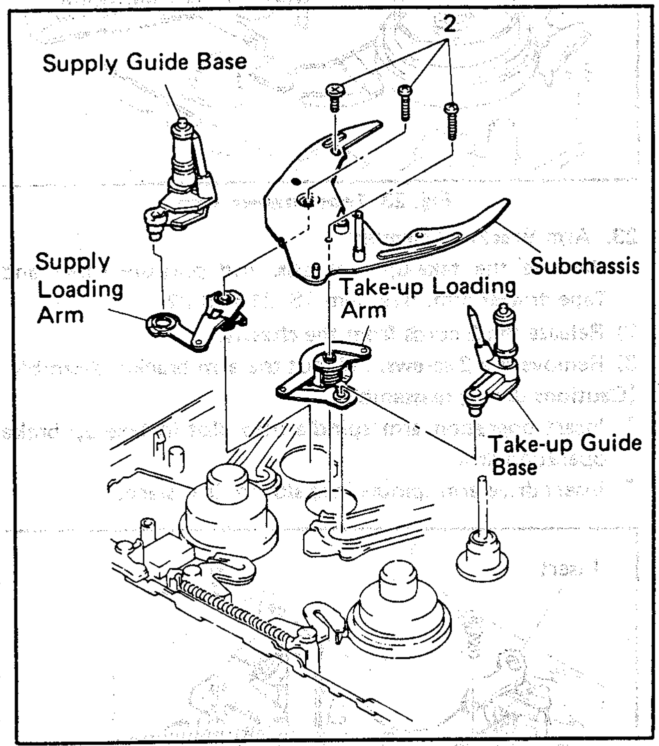


Fig. 25 Guide Base/Loading Link

* Components in items 25 to 27 are described as if the top and bottom covers have already been removed. (See items 2 and 3 in the section on case removal)

25. Clutch Plate Assembly (Fig. 26)

1) Remove the reinforcing plate.
2) Remove the reel drive gear (see item 15).
3) Remove the reel belt.
4) Remove the 2 screws holding the clutch plate assembly.

26. Brake Slider

1) Remove the reinforcing plate.
2) Remove the reel drive gear and clutch plate assembly (see items 15 and 25).
3) Remove the screw holding the brake slider.

[Cautions during reassembly]

- * Make sure the pin on the brake drive arm is inserted into the groove in the slider operating section.

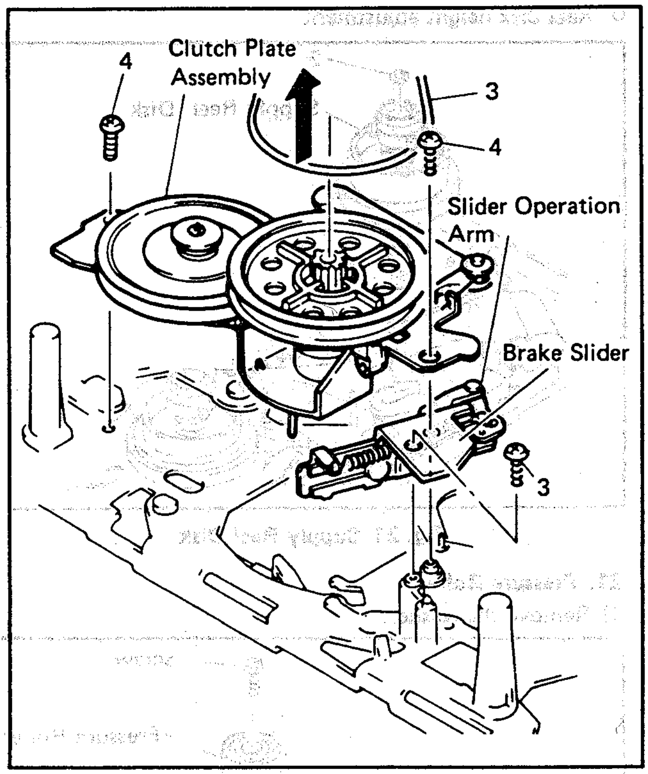


Fig. 26 Clutch Plate Assembly/Brake Slider

27. Capstan Flywheel

1) Remove the 2 screws holding the flywheel retainer bar. Remove the flywheel retainer bar.
2) Remove the nylon washer from the top of the capstan shaft.
3) Remove the reel belt and capstan belt. Remove the flywheel.

[Cautions during reassembly]

- * Make sure the washer is inserted between the bottom side of the chassis and the flywheel.

[Adjustments after reassembly]

- o Reference oscillation frequency adjustment

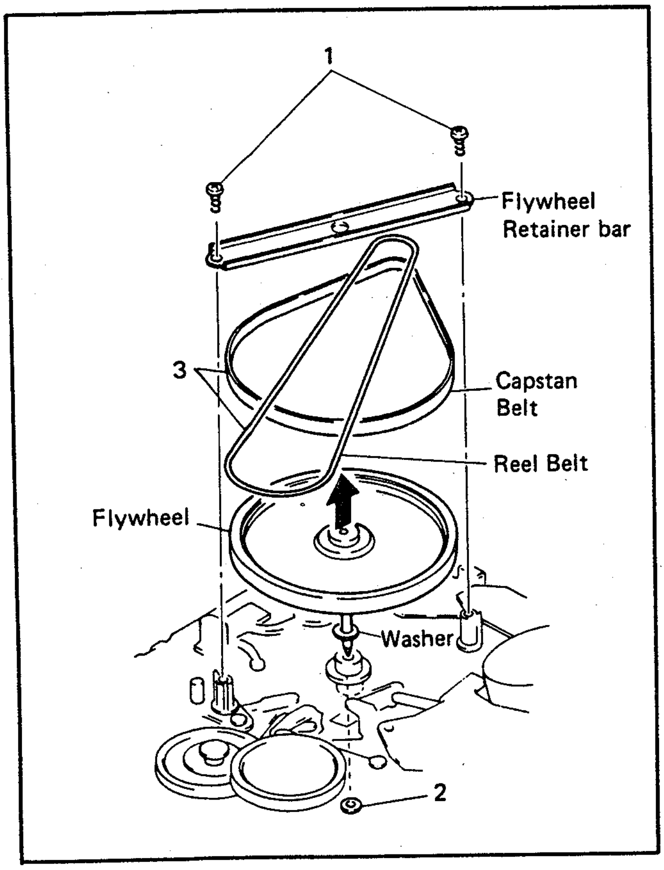

1
Flywheel Retainer bar
3
Capstan Belt
Reel Belt
Flywheel
Washer
2

Fig. 27 Capstan Flywheel

28. Loading Gear Assembly

1) Remove the top and bottom covers (see items 2 and 3 in the section on case removal).

Top Side

2) Remove the 2 screws from the top of the subchassis.
3) Remove the reel drive gear. (See item 15)

Bottom Side

4) Remove the mechanism state switch, clutch plate assembly, brake slider and capstan flywheel. (See items 9, 25, 26 and 27.)
5) Remove the spring and switch slider from the loading gear assembly.
6) Remove the tension release arm.
7) Remove the loading belt.
8) Remove the 3 screws holding the loading gear assembly.

[Cautions during reassembly]

- * Insert the pin on the take-up subbrake drive arm into the slot on the take-up subbrake operation arm.
- * Insert the pin on the pressure roller drive arm into the slot in the pressure roller operation arm.

[Adjustments after reassembly]

- o Mechanism state switch adjustment

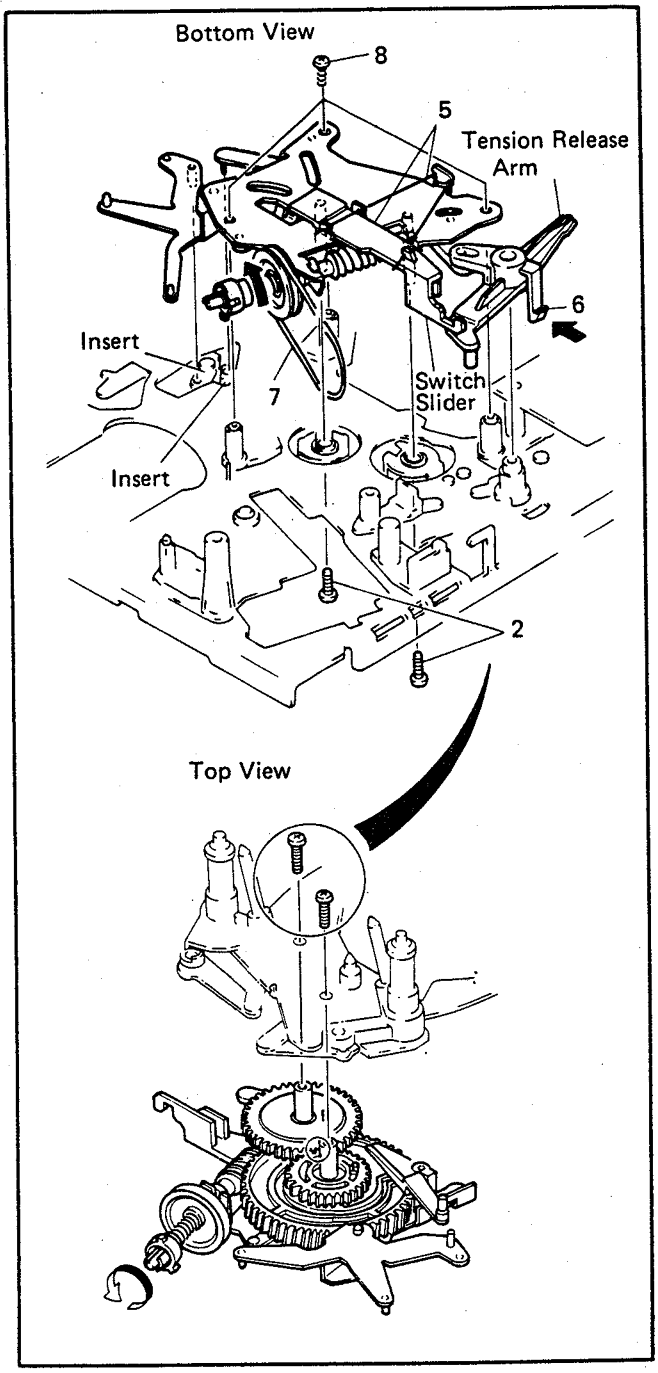

Bottom View
8
5
Tension Release Arm
6
Insert
7
Switch Slider
Insert
2
Top View

Fig. 28 Loading Gear Assembly

CHAPTER 3

ELECTRIC CIRCUIT ADJUSTMENT

Test equipment and tapes necessary for adjustment.

1) Oscilloscope
2) PAL/SECAM Colour bar generator
3) VTVM
4) Frequency counter
5) Monitor TV
6) PAL/SECAM Alignment tape
7) Alignment tape
8) Blank tape

Cautions on adjustments

1) If there are no special instructions, the following conditions apply:
   - ○ Oscilloscope probe: 10 : 1
   - ○ Oscilloscope synchronization: Auto-Sync
   - ○ Tracking control: centre click.
2) When making more than one adjustment, make adjustments in the order listed.

Resetting microprocessors

All microprocessors installed in the unit will be reset once the AC power lead is removed from the wall socket. However, the timer microprocessor's back-up circuit keeps it from resetting until about five minutes after power off.

The timer microprocessor can be reset by switch S759 on the timer circuit board. (Switch S759 can be operated by inserting a screwdriver into the round slot adjacent to the PRESET switch even when the front panel is attached.)

1. Adjust the parts on the main circuit board (V.S TUNING, REAR JACK, Y/CHROMA) from the solder side as shown in Fig. 1.
2. Adjust the parts on the secam circuit board from the parts side as shown in Fig. 1.
3. Adjust the parts on the system control/servo circuit board (SYS.CON./SERVO) from the parts side as shwon in Fig. 2.

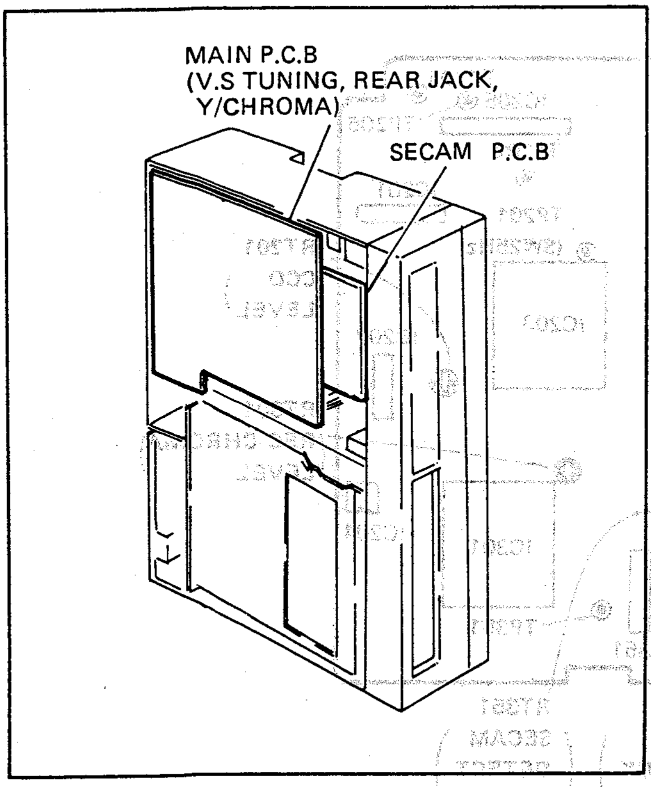


Fig. 1 Ready to Adjust Main Circuit Board

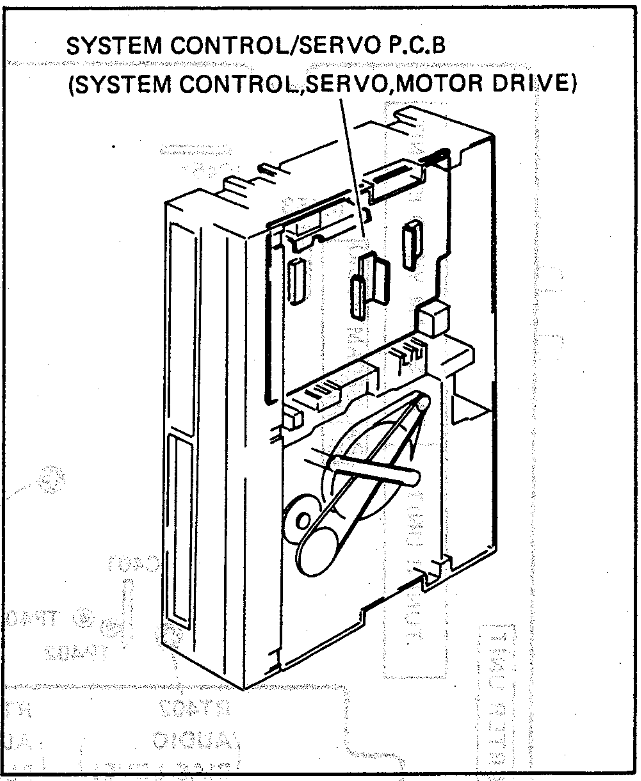

SYSTEM CONTROL/SERVO P.C.B
(SYSTEM CONTROL,SERVO,MOTOR DRIVE)

Fig. 2 Ready to Adjust System Control /Servo Circuit Board

* See item 1 in chapter 2 on circuit board removal for details on main circuit board removal.

COMPONENTS LOCATIONS ON CIRCUIT BOARDS

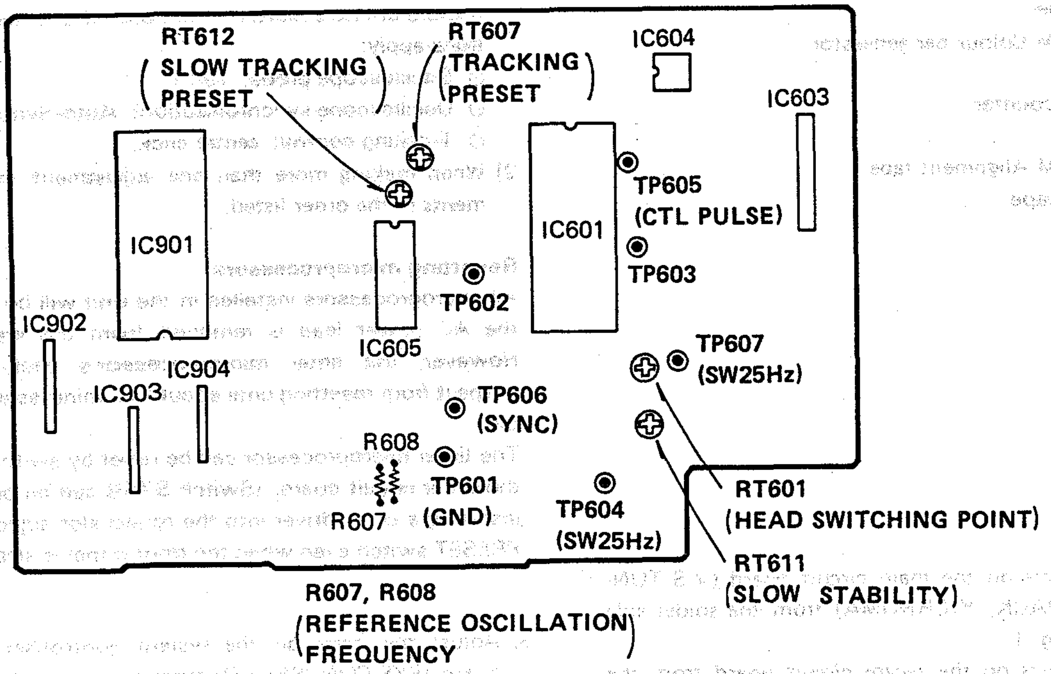

RT612
SLOW TRACKING PRESET
RT607
TRACKING PRESET
IC604
IC603
TP605
(CTL PULSE)
IC901
IC601
TP603
TP602
IC902
IC605
TP607
(SW25Hz)
IC904
IC903
TP606
(SYNC)
R608
TP601
(GND)
R607
TP604
(SW25Hz)
RT601
(HEAD SWITCHING POINT)
RT611
(SLOW STABILITY)
R607, R608
(REFERENCE OSCILLATION FREQUENCY)

Fig. 3 Components on System Control/Servo Circuit Board (Components Side)

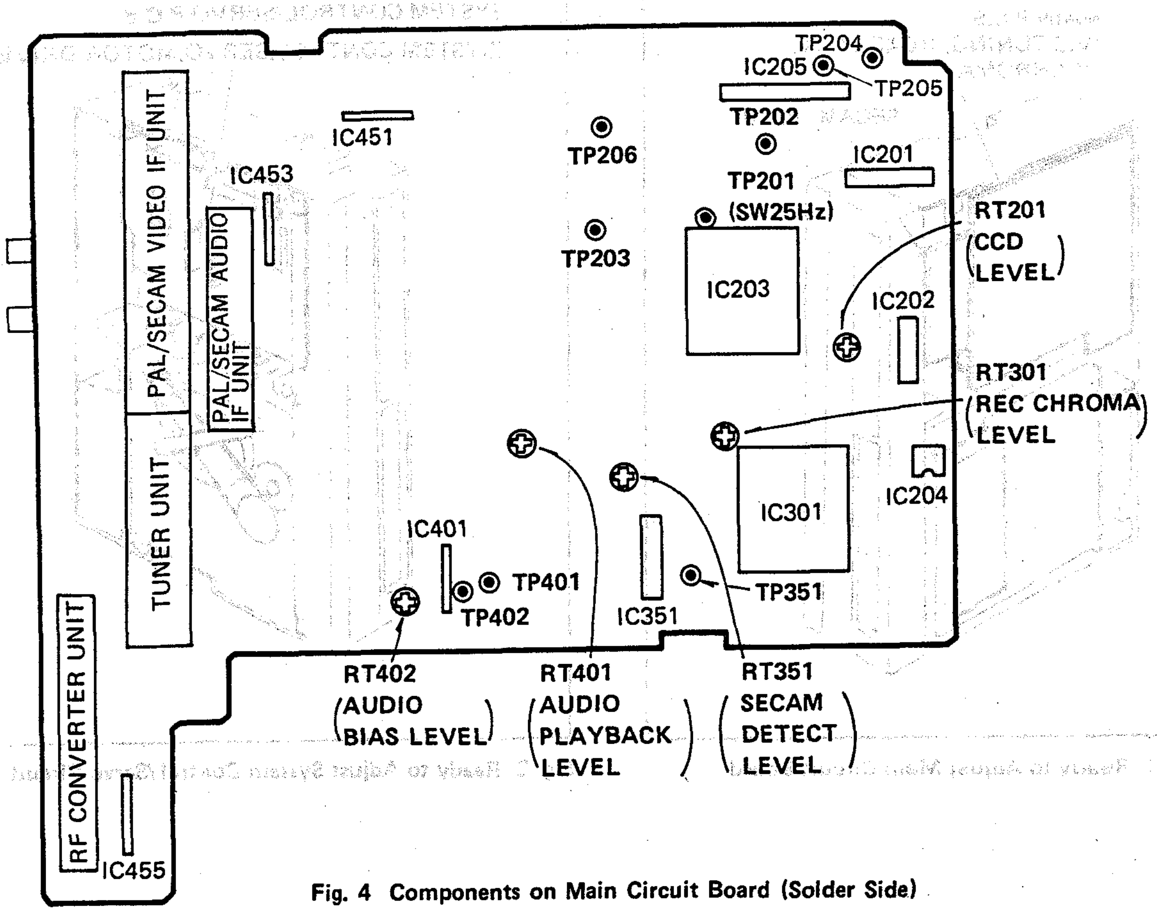

TP204
IC205
TP205
TP202
IC451
TP206
TP201
(SW25Hz)
IC201
IC453
RT201
(CCD LEVEL)
PAL/SECAM VIDEO IF UNIT
PAL/SECAM AUDIO IF UNIT
TP203
IC203
IC202
RT301
(REC CHROMA LEVEL)
TUNER UNIT
IC204
IC301
IC401
TP401
TP402
IC351
TP351
RF CONVERTER UNIT
RT402
(AUDIO BIAS LEVEL)
RT401
(AUDIO PLAYBACK LEVEL)
RT351
(SECAM DETECT LEVEL)
IC455

Fig. 4 Components on Main Circuit Board (Solder Side)

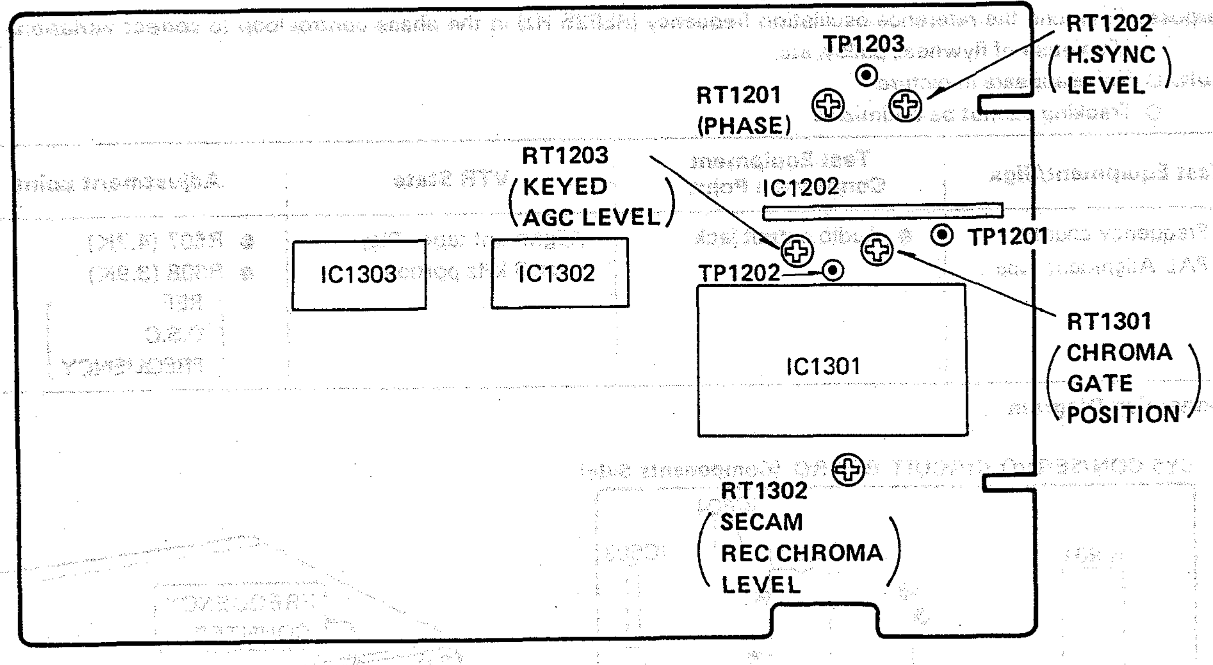

TP1203
RT1202
(H.SYNC LEVEL)
RT1201
(PHASE)
RT1203
(KEYED AGC LEVEL)
IC1202
TP1201
IC1303
IC1302
TP1202
RT1301
(CHROMA GATE POSITION)
IC1301
RT1302
(SECAM REC CHROMA LEVEL)

Fig. 5 Components on Secam Circuit Board (Components Side)

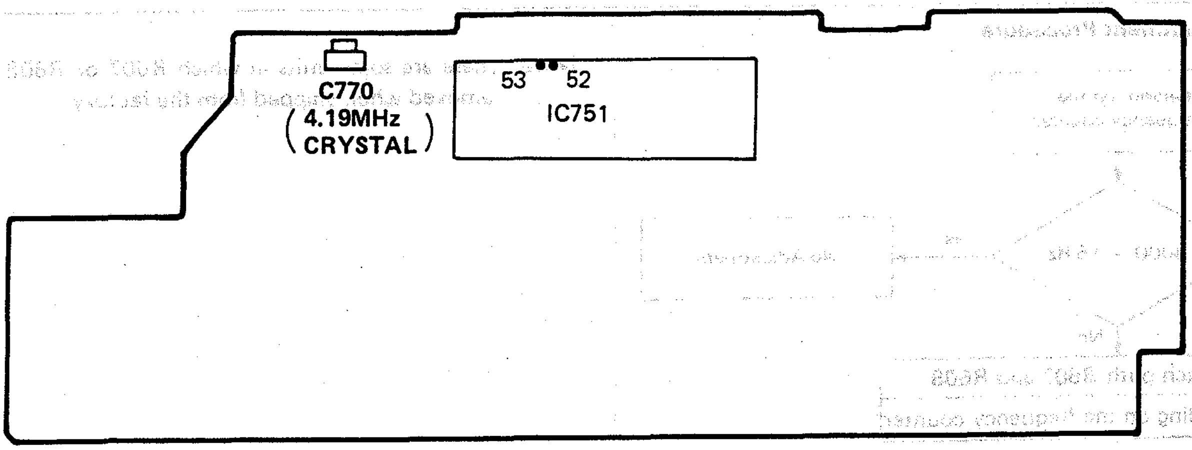

C770
(4.19MHz CRYSTAL)
53
52
IC751

Fig. 6 Components on Timer Circuit Board (Components Side)

1. SERVO CIRCUIT ADJUSTMENT

1. Reference Oscillation Frequency Adjustment

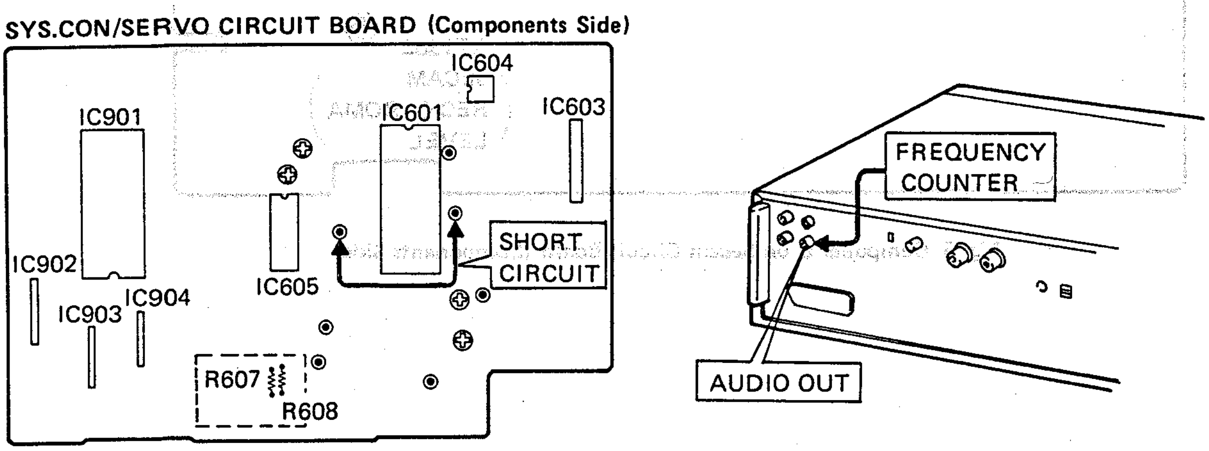
Purpose of adjustment and fault occurring if incomplete

Purpose: Fine tune the reference oscillation frequency (REF25 Hz) in the phase control loop to correct variations in diameters of flywheel, pulley, etc.

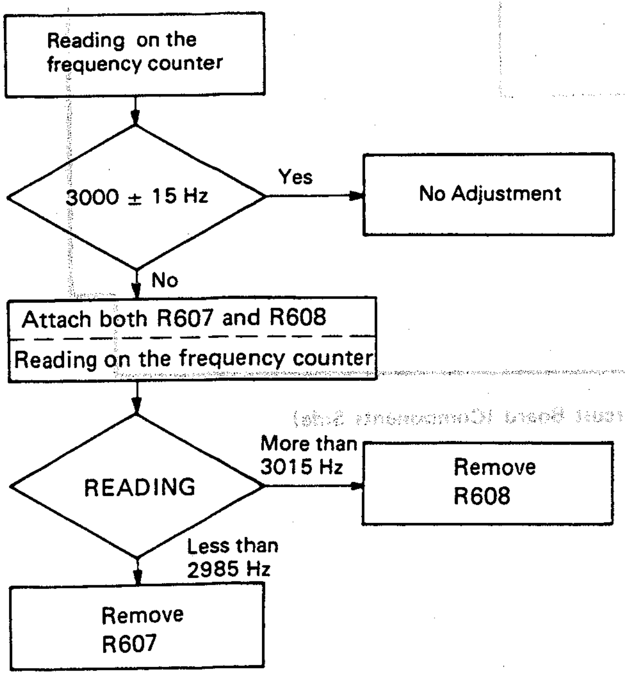
Fault: ○ Noise appears in picture.
○ Tracking cannot be optimized.

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment point
● Frequency counter ● PAL Alignment tape	● Audio output jack	Alignment tape: Play back 3 kHz portion	● R607 (4.7K) ● R608 (3.9K) (REF. O.S.C FREQUENCY)

Connection Diagram


SYS.CON/SERVO CIRCUIT BOARD (Components Side)
IC604
IC901
IC601
IC603
IC902
IC903
IC904
IC605
SHORT CIRCUIT
R607
R608
FREQUENCY COUNTER
AUDIO OUT

Adjustment Procedure


Reading on the frequency counter
3000 ± 15 Hz
Yes
No Adjustment
No
Attach both R607 and R608
Reading on the frequency counter
READING
More than 3015 Hz
Remove R608
Less than 2985 Hz
Remove R607

Note: There are some units in which R607 or R608 is removed when shipped from the factory.

2. Head Switching Point Adjustment

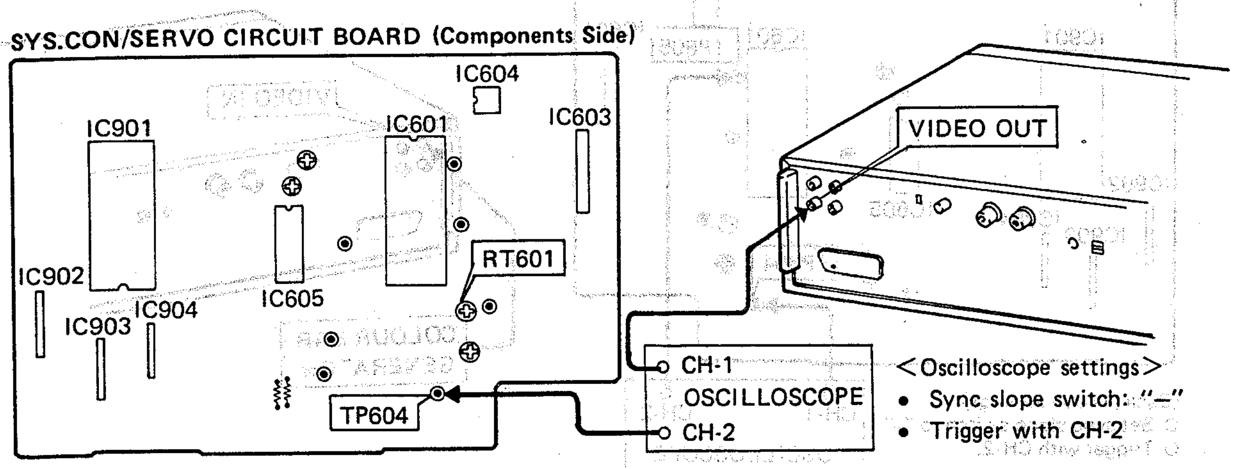
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the video head switching point to almost centre where the CH-1 and CH-2 envelopes overlap each other during playback.

Fault:
- ○ The vertical sync signal is degraded and vertical jitter occurs.
- ○ Switching noise occurs in lower part of picture.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● PAL Alignment tape	● CH-1: video output jack ● CH-2: TP604 (SW25Hz)	● Play back alignment tape	● RT601 (HEAD SWITCHING POINT)

Connection Diagram

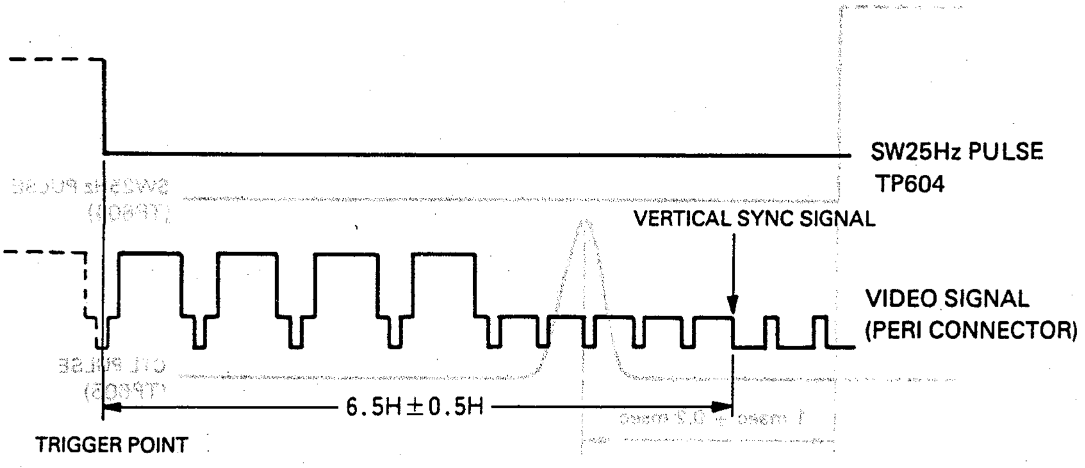

SYS.CON/SERVO CIRCUIT BOARD (Components Side)
IC604
IC901
IC601
IC603
RT601
IC902
IC605
IC904
IC903
TP604
VIDEO OUT
CH-1
OSCILLOSCOPE
CH-2

<Oscilloscope settings>
- Sync slope switch: "−"
- Trigger with CH-2

Adjustment Procedure

Vertical sync signal:
6.5H ±0.5H from trailing edge (trigger point) of SW25 Hz pulse.

Waveform


SW25Hz PULSE
TP604
VERTICAL SYNC SIGNAL
VIDEO SIGNAL
(PERI CONNECTOR)
6.5H±0.5H
TRIGGER POINT

3. Tracking Preset Adjustment

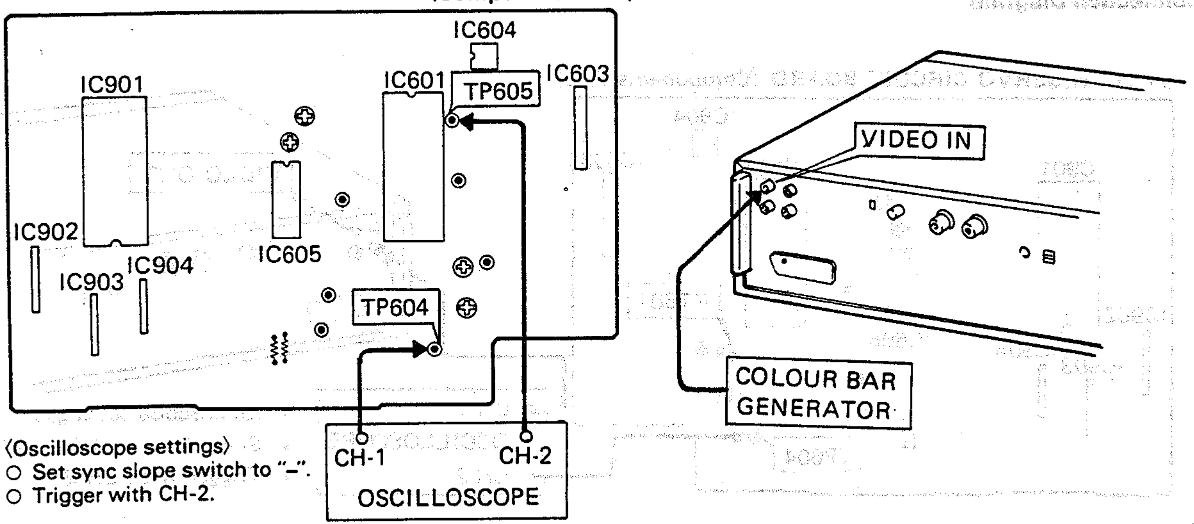
Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize tracking when playing back a tape recorded by this unit.

Fault: ○ Noise occurs even with tracking control centred.
○ Noise cannot be removed by turning the tracking control.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● PAL Colour bar generator (or receive TV programme) ● Blank tape	● CH-1: TP604 (SW25Hz) ● CH-2: TP605 (CTL PULSE)	● Record colour bar signal and play it back with this unit. ● Tracking control: Center click position	● RT607 (TRACKING PRESET)

Connection Diagram SYS.CON/SERVO CIRCUIT BOARD (Components Side)

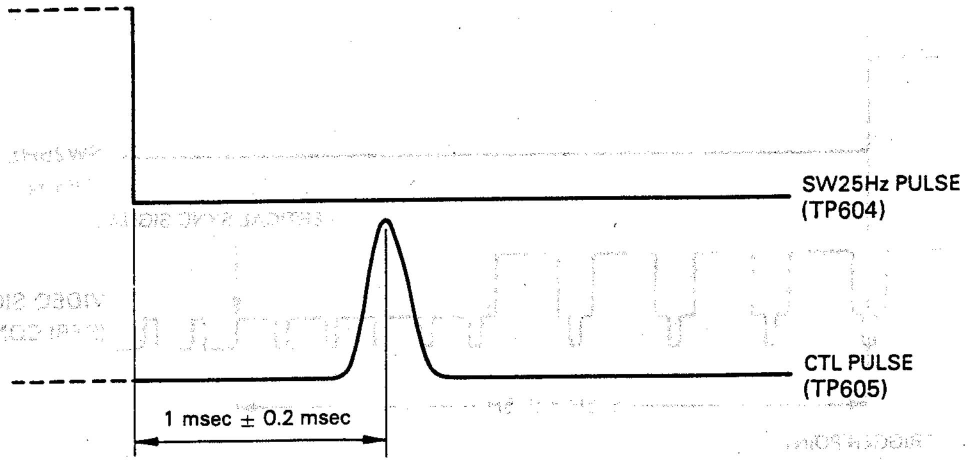

IC604
IC901
IC601
TP605
IC603
IC902
IC903
IC904
IC605
TP604
VIDEO IN
COLOUR BAR GENERATOR
CH-1
CH-2
OSCILLOSCOPE

⟨Oscilloscope settings⟩
○ Set sync slope switch to "–".
○ Trigger with CH-2.

Adjustment Procedure

1) Tracking control: centred
2) It is 0.5msec ± 0.2msec from the fall of SW 25Hz to the peak of CTL pulse.

Waveform


SW25Hz PULSE (TP604)
CTL PULSE (TP605)
1 msec ± 0.2 msec

4. Slow Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete

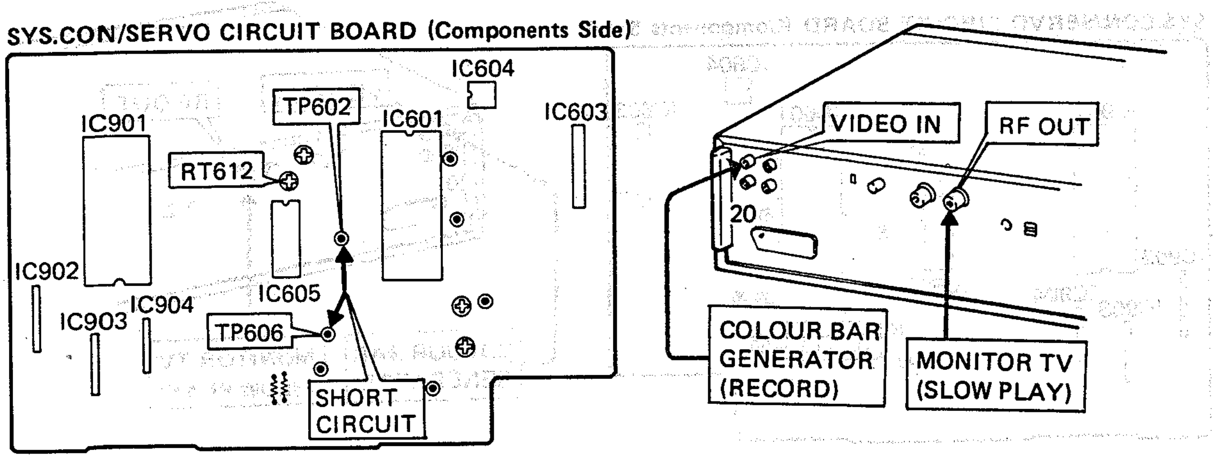
Purpose: Optimize tracking during slow play.

Fault: A noise bar appears in the picture during slow play.

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● Monitor TV	● RF out monitor	● Record colour bar signal, play it back with this unit in slow mode. ● Slow tracking: Center click ● TP606 and TP602: Short circuit	● RT612 (SLOW TRACKING PRESET)
● PAL Colour bar generator (or receive TV programme) ● Blank tape	● Video input		

Connection Diagram

SYS.CON/SERVO CIRCUIT BOARD (Components Side)


IC604
TP602
IC601
IC603
IC901
RT612
IC902
IC903
IC904
IC605
TP606
SHORT CIRCUIT
VIDEO IN
RF OUT
20
COLOUR BAR GENERATOR (RECORD)
MONITOR TV (SLOW PLAY)

Adjustment Procedure

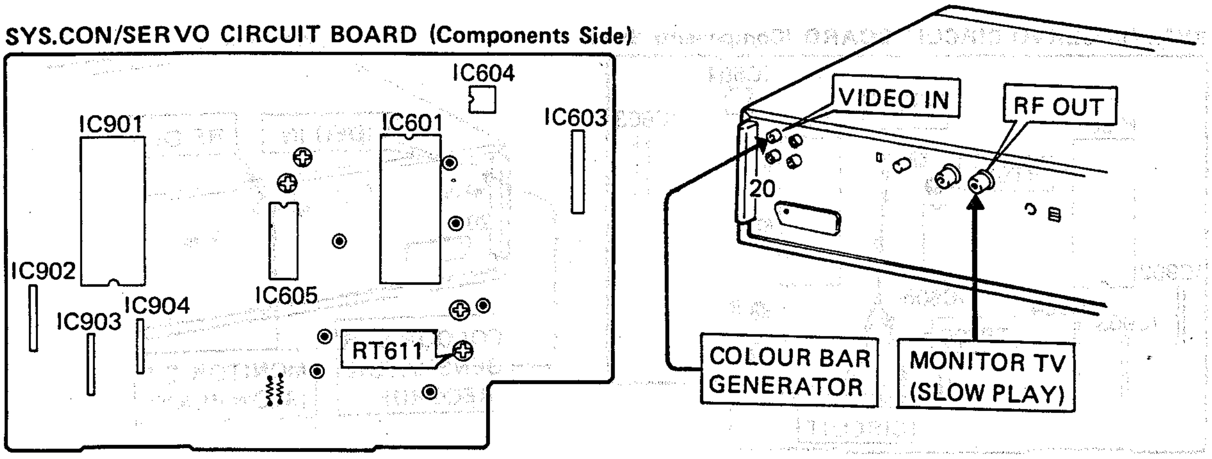
1) Slow tracking control: centred
2) More than 12 frames are advanced intermittently until the noise bar flows from the bottom to top and disappears.

5. Slow Stability Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Suppress the horizontal jitter in the picture during slow play.
Fault: Horizontal jitter occurs in the picture during slow play.

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● Monitor TV	● RF out	● Record colour bar signal, play it back with this unit in slow mode.	● RT611 [SLOW STABILITY]
● PAL Colour bar generator (or receive TV programme)	● Video in		
● Blank tape			

Connection Diagram


SYS.CON/SERVO CIRCUIT BOARD (Components Side)
IC604
IC901
IC601
IC603
IC902
IC904
IC605
IC903
RT611
VIDEO IN
RF OUT
20
COLOUR BAR GENERATOR
MONITOR TV (SLOW PLAY)

Adjustment Procedure
1) Slow tracking control: centred
2) Minimize horizontal jitter in the picture.

2. PAL/SECAM Y/CHROMA CIRCUIT ADJUSTMENT

1. CCD Level Adjustment

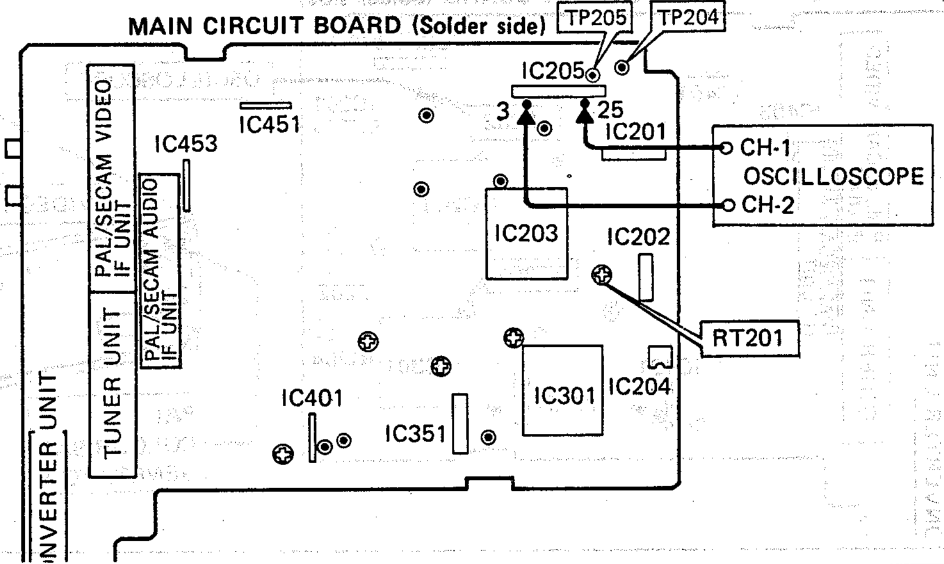
Purpose of adjustment and fault occurring if incomplete

Purpose: Make the input and output levels of the CCD 1H delay line the same.

Fault: Switching noise is conspicuous when dropout is compensated.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● PAL Alignment tape	● CH-1: TP204 ● CH-2: TP205	● CCIR/SECAM mode select sw: CCIR ● Play back PAL alignment tape	● RT201 (CCD LEVEL)

Connection Diagram


MAIN CIRCUIT BOARD (Solder side)
TP205
TP204
IC205
3
25
IC201
IC451
IC453
PAL/SECAM VIDEO IF UNIT
PAL/SECAM AUDIO IF UNIT
TUNER UNIT
INVERTER UNIT
CH-1
OSCILLOSCOPE
CH-2
IC203
IC202
RT201
IC401
IC351
IC301
IC204

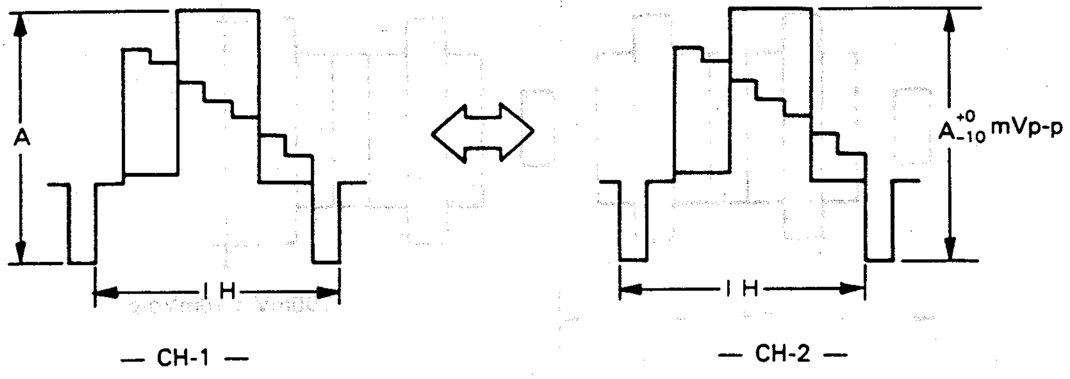
Adjustment Procedure

Align the CH-1 and CH-2 levels.

CH-2 = CH-1$^{+0}_{-10}$ mVp-p.

Note: CH-2 level is less than CH-1 level.

Waveform


A
1 H
— CH-1 —
A^{+0}_{-10} mVp-p
1 H
— CH-2 —

2. PAL Rec Chroma Level Adjustment

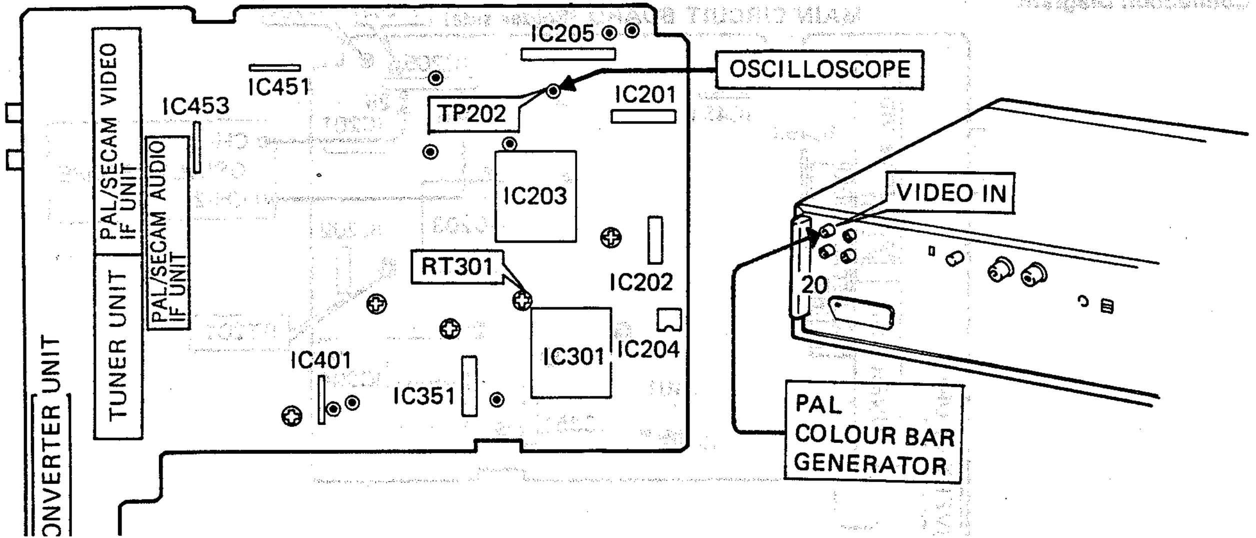
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the chroma record level to an optimum value.

Fault: Diamond beats occur in the played back picture or colouring becomes poor.

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● PAL Colour bar generator ● Oscilloscope	● Video in ● TP202	● CCIR/SECAM mode select sw: CCIR ● E-E mode	● RT301 (PAL REC CHROMA LEVEL)

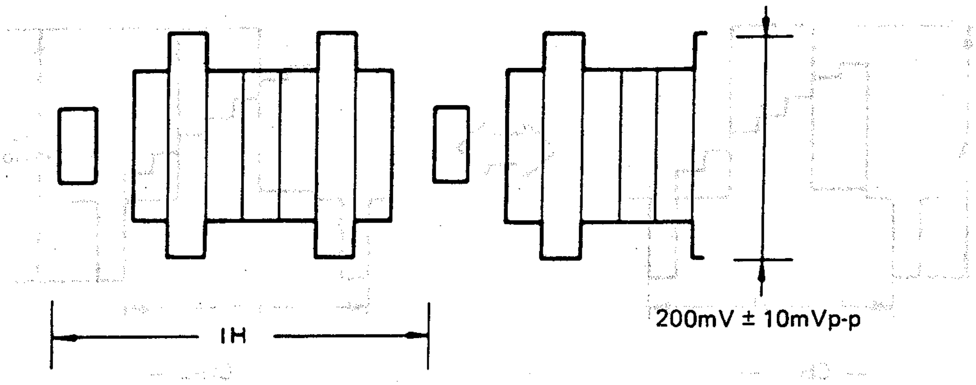
Connection Diagram MAIN CIRCUIT BOARD (Solder side)


IC205
OSCILLOSCOPE
IC451
IC453
TP202
IC201
PAL/SECAM VIDEO IF UNIT
PAL/SECAM AUDIO IF UNIT
IC203
VIDEO IN
RT301
IC202
20
TUNER UNIT
IC401
IC301
IC204
IC351
CONVERTER UNIT
PAL COLOUR BAR GENERATOR

Adjustment Procedure

The oscilloscope reads 200mV ± 10mVp-p

Waveform


1H
200mV ± 10mVp-p

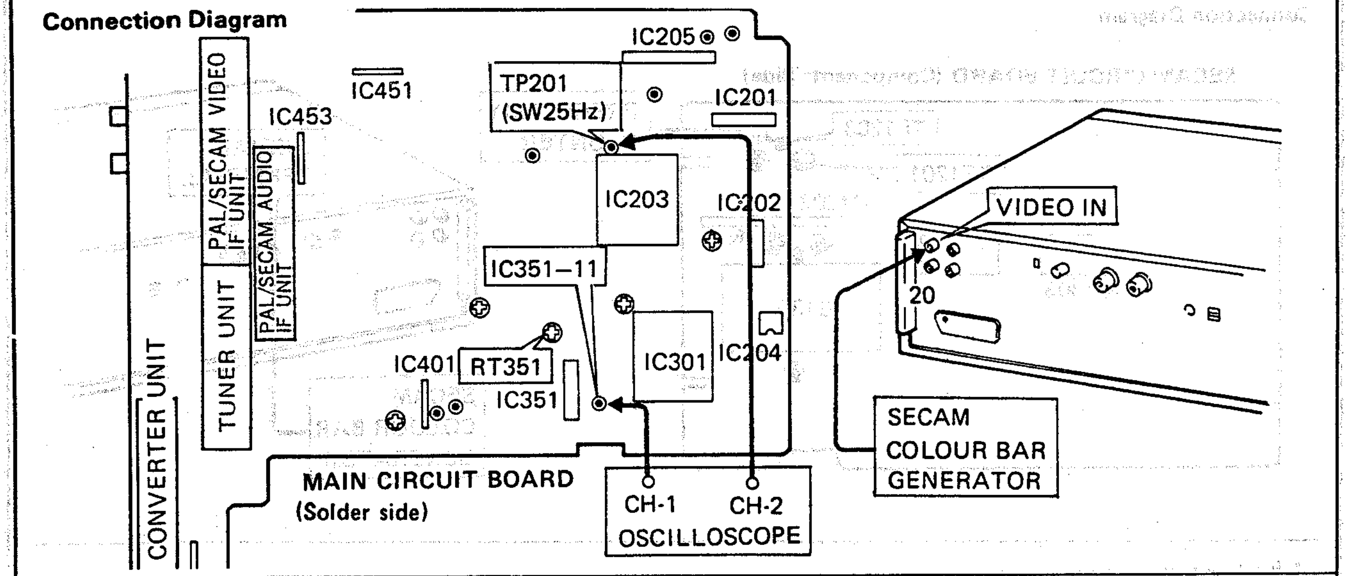
3. Secam Detect Level Adjustment

Purpose of adjustment and fault occurring if incomplete

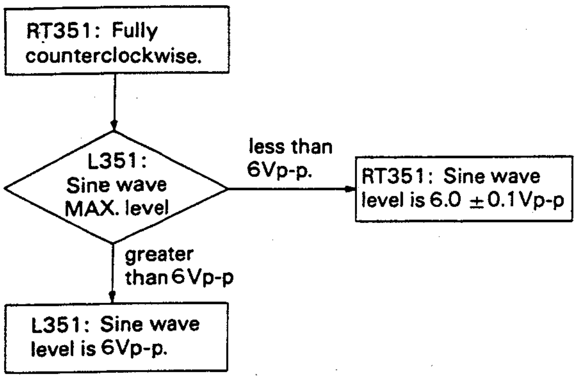
Purpose: Set the Secam detect level to the specified value.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● SECAM colour bar generator	● Video in	● CCIR/SECAM mode select sw: CCIR ● EE mode	● RT351 ● L351 (SECAM DETECT LEVEL)
● Oscilloscope	● CH-1: TP351 ● CH-2: TP201 (SW25Hz)		

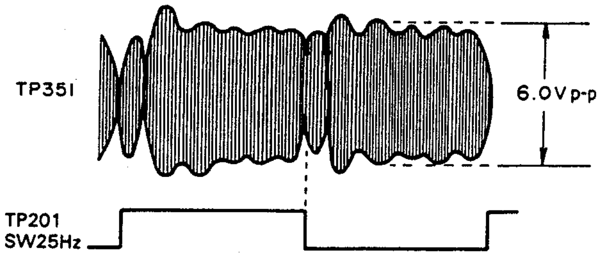
Connection Diagram


IC205
IC451
TP201
(SW25Hz)
IC201
IC453
PAL/SECAM VIDEO IF UNIT
PAL/SECAM AUDIO IF UNIT
IC203
IC202
IC351−11
TUNER UNIT
CONVERTER UNIT
IC401
RT351
IC301
IC204
IC351
MAIN CIRCUIT BOARD
(Solder side)
CH-1
CH-2
OSCILLOSCOPE
VIDEO IN
20
SECAM COLOUR BAR GENERATOR

Adjustment Procedure


RT351: Fully counterclockwise.
L351: Sine wave MAX. level
less than 6Vp-p.
RT351: Sine wave level is 6.0 ±0.1Vp-p
greater than 6Vp-p
L351: Sine wave level is 6Vp-p.

Waveforms



4. H. sync Level Adjustment

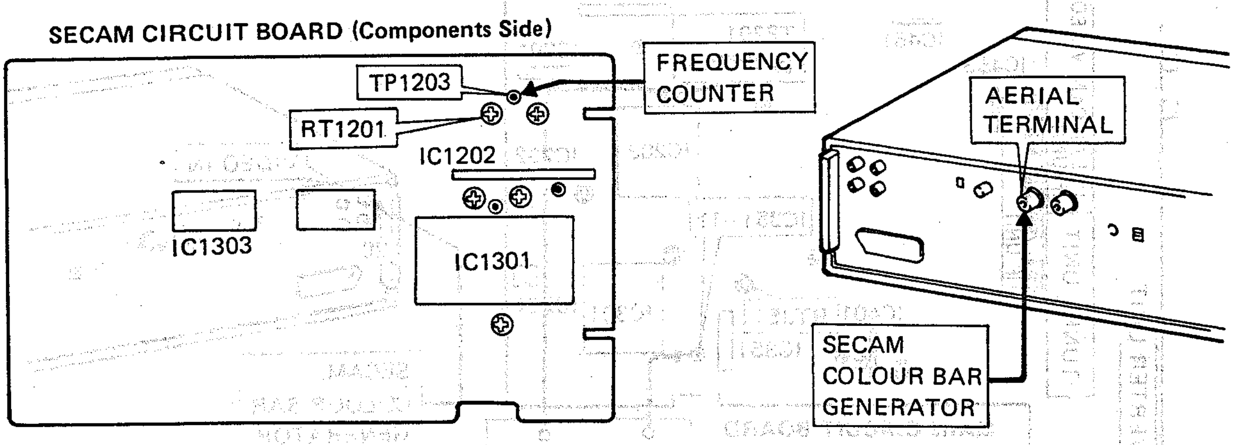
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the H. sync level to an optimum value.

Fault:

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● SECAM colour bar generator	● Aerial terminal	● CCIR/SECAM mode select sw: SECAM	● RT1201
● Frequency counter	● TP1203	● EE mode	

Connection Diagram


SECAM CIRCUIT BOARD (Components Side)
TP1203
RT1201
IC1202
IC1303
IC1301
FREQUENCY COUNTER
AERIAL TERMINAL
SECAM COLOUR BAR GENERATOR

Adjustment Procedure

The reading of the frequency counter is 15.625 ± 0.1 kHz.

Waveform

5. Phase Adjustment

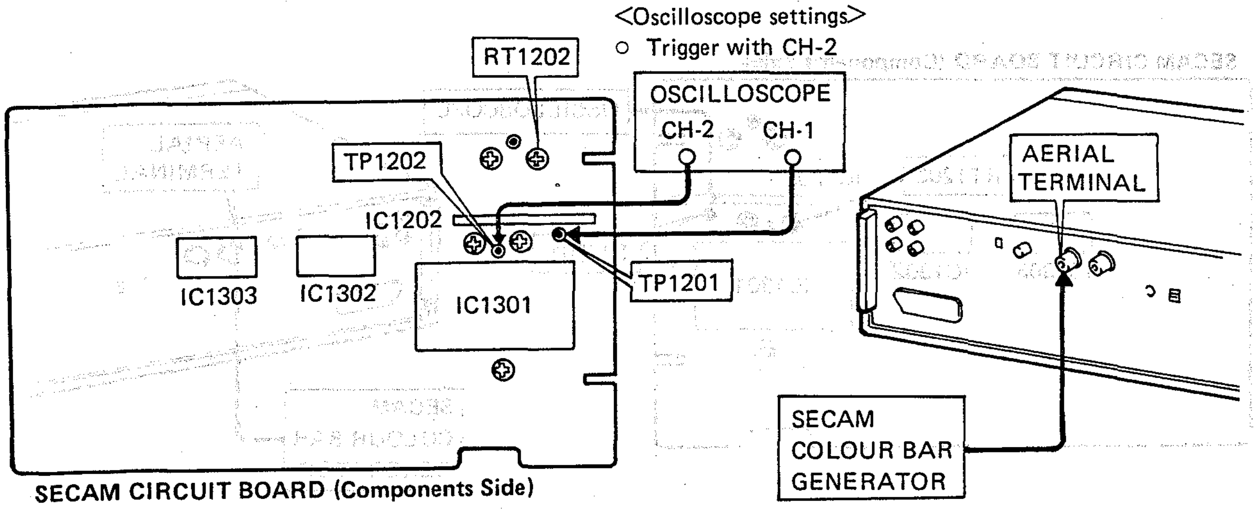
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the phase to an optimum value

Fault:

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● SECAM colour bar generator	● Aerial terminal	● CCIR/SECAM mode select sw: SECAM ● EE mode	● RT1202 (PHASE)
● Oscilloscope	● CH-1: TP1201 ● CH-2: TP1202		

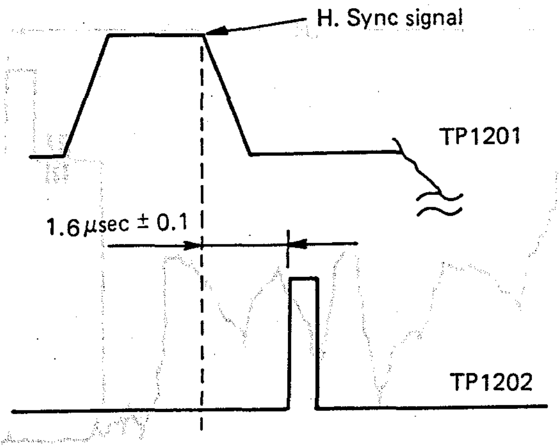
Connection Diagram


<Oscilloscope settings>
○ Trigger with CH-2
RT1202
OSCILLOSCOPE
CH-2
CH-1
TP1202
IC1202
IC1303
IC1302
IC1301
TP1201
AERIAL TERMINAL
SECAM COLOUR BAR GENERATOR
SECAM CIRCUIT BOARD (Components Side)

Adjustment Procedure

The H. Sync signal is set to 1.6 μsec ± 0.1 μsec before leading edge of the puladkeyed signal.

Waveform


H. Sync signal
TP1201
1.6 μsec ± 0.1
TP1202

6. Keyed AGC Level Adjustment

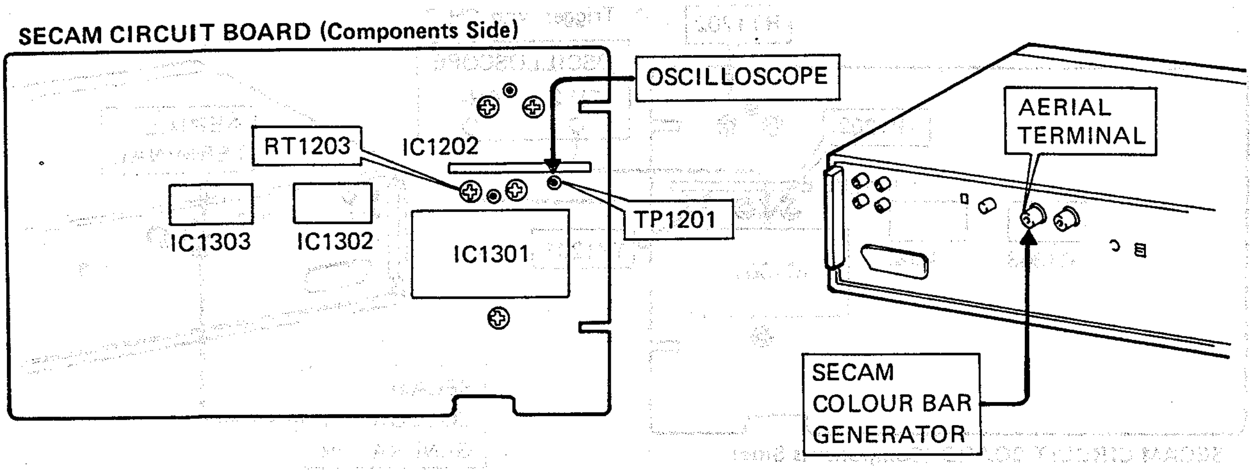
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the keyed AGC level to an optimum value.

Fault:

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● SECAM Colour bar generator	● Aerial terminal	● CCIR/SECAM mode select SW: SECAM ● EE mode	● RT1203 (KEYED AGC LEVEL)
● Oscilloscope	● TP1201		

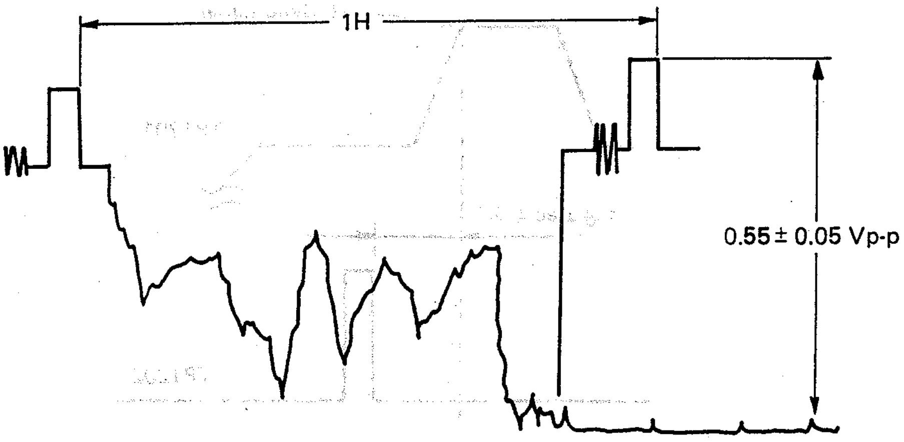
Connection Diagram


SECAM CIRCUIT BOARD (Components Side)
OSCILLOSCOPE
RT1203
IC1202
IC1303
IC1302
IC1301
TP1201
AERIAL TERMINAL
SECAM COLOUR BAR GENERATOR

Adjustment Procedure

The reading of video level is 0.55 ± 0.05 Vp-p.

Waveform


1H
0.55 ± 0.05 Vp-p

Measure the video level, not taking the chroma subcarrier and shoots into account.

7. Chroma Gate Position Adjustment

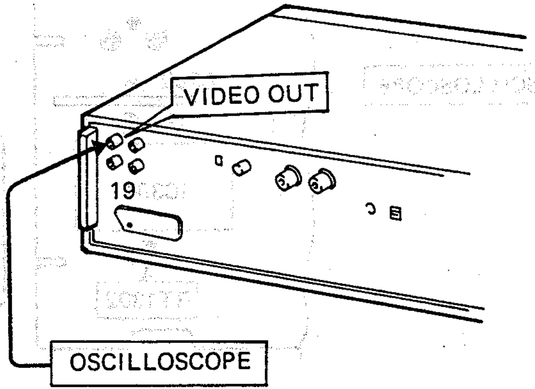
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the chroma gate position to an optimum value.

Fault:

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● SECAM Alignment tape ● Oscilloscope	● Video out	● CCIR/SECAM mode select sw: SECAM ● Playback alignment tape	● RT1301 (CHROMA GATE POSITION)

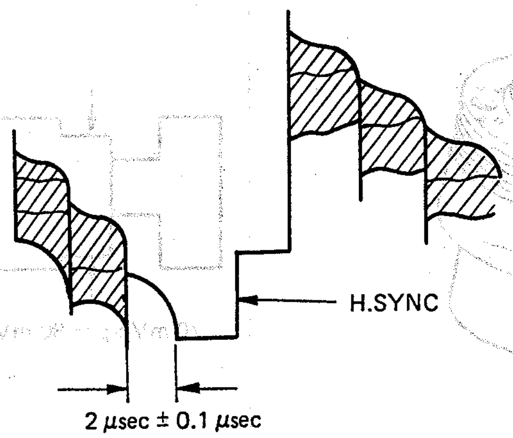
Connection Diagram



Adjustment Procedure

The trailing edge of the H. sync signal and chroma gate are the 2 ± 0.1 µsec position.

Waveform



8. Secam Rec Chroma Level Adjustment

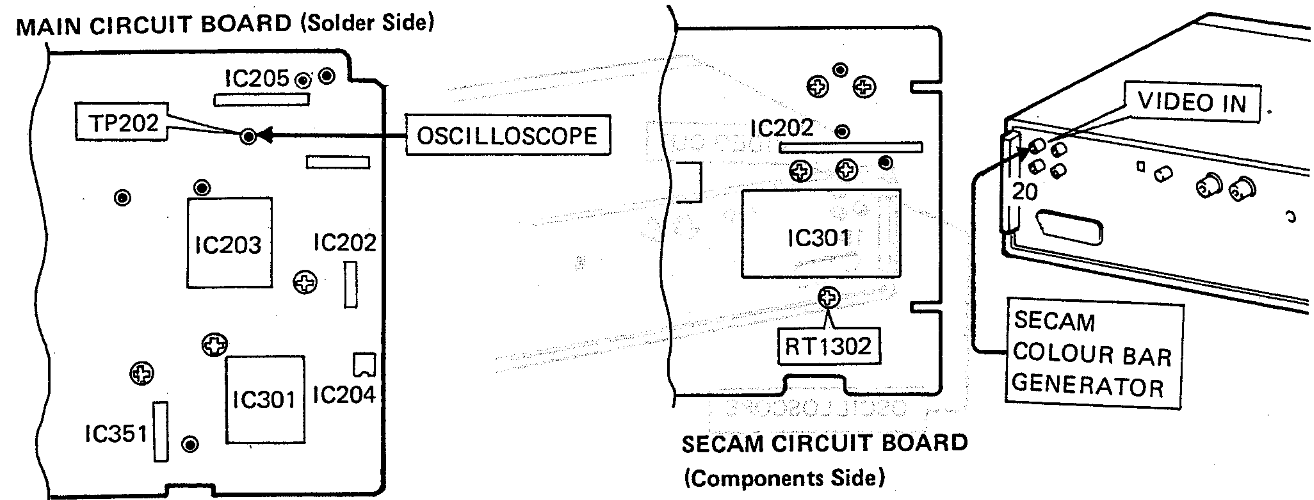
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the chroma record level to an optimum value.

Fault: The diamond beats occur in the played back picture or colouring becomes poor.

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● SECAM Color bar generator ● Oscilloscope	● Video in ● TP202	● CCIR/SECAM mode select sw: SECAM ● REC. PAUSE mode	● RT1302 (SECAM REC CHROMA LEVEL)

Connection Diagram


MAIN CIRCUIT BOARD (Solder Side)
IC205
TP202
OSCILLOSCOPE
IC203
IC202
IC301
IC204
IC351
IC202
IC301
RT1302
VIDEO IN
20
SECAM COLOUR BAR GENERATOR

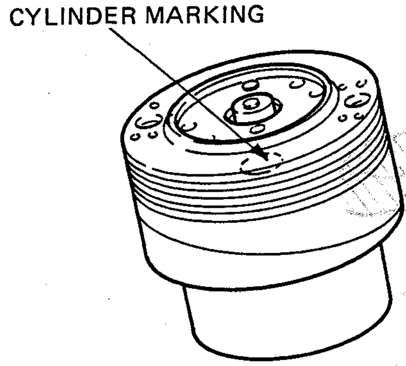
SECAM CIRCUIT BOARD (Components Side)

Adjustment Procedure

Adjust RT1302 so that the record chroma level shown in Fig. A is set to the value specified in Table 1.

Cylinder mark	Level
0 ~ 1	70 mVp-p
2 ~ 3	75 mVp-p
4	80 mVp-p

Table 1 SECAM Record Chroma Level


CYLINDER MARKING

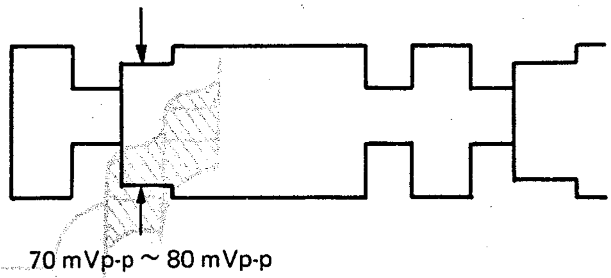

70 mVp-p ~ 80 mVp-p

Fig. A

3. AUDIO CIRCUIT ADJUSTMENT

1. Audio Playback Level Adjustment

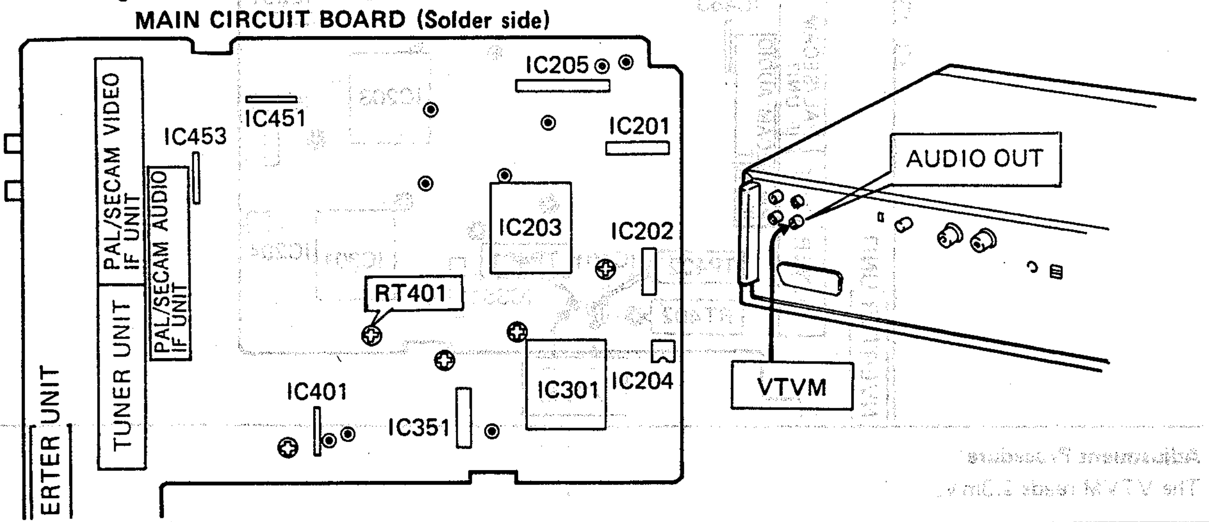
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the audio playback level to the specified value.

Fault: When playing back a tape recorded by another VTR, the playback level does not match.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Points
● VTVM ● Alignment tape	● Audio OUTPUT	● Play back alignment tape	● RT401 (AUDIO PLAYBACK LEVEL)

Connection Diagram


MAIN CIRCUIT BOARD (Solder side)
IC205
IC451
IC453
IC201
PAL/SECAM VIDEO IF UNIT
PAL/SECAM AUDIO IF UNIT
IC203
IC202
RT401
TUNER UNIT
ERTER UNIT
IC401
IC351
IC301
IC204
AUDIO OUT
VTVM

Adjustment Procedure

The VTVM reads -11dBm ± 0.1dBm.

2. Audio Bias Level Adjustment

Purpose of adjustment and fault occurring if incomplete

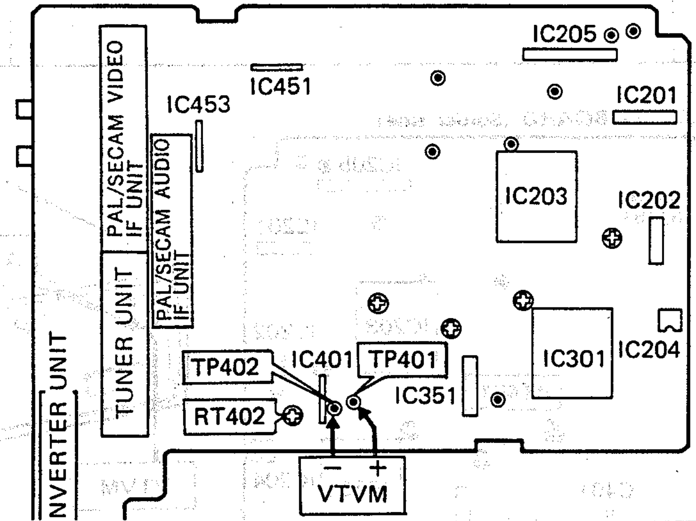
Purpose: Set audio bias during recording to optimum level.

Fault: ○ Bias too high: High-frequency response deteriorates.
○ Bias too low: Sound tends to be distorted.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Points
● VTVM ● Blank tape	● TP401 ● TP402 (GND)	● Non-signal recording	● RT402 (AUDIO BIAS LEVEL)

Connection Diagram

MAIN CIRCUIT BOARD (Solder side)


IC205
IC451
IC453
IC201
PAL/SECAM VIDEO IF UNIT
PAL/SECAM AUDIO IF UNIT
IC203
IC202
TUNER UNIT
NVERTER UNIT
IC301
IC204
TP402
IC401
TP401
IC351
RT402
−
+
VTVM

Adjustment Procedure

The VTVM reads 2.3mV.

5. TIMER CIRCUIT ADJUSTMENT

1. 4.19 MHz Crystal Adjustment

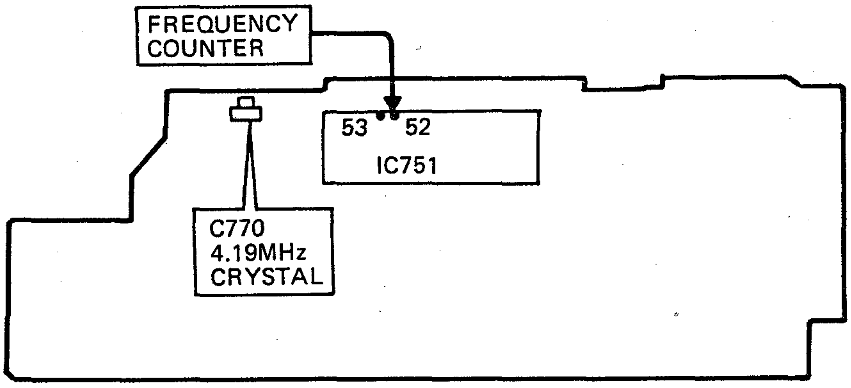
Purpose of adjustment and fault occurring if incomplete

Purpose: Suppress the time gain or lag of the timer to less than 0.2 seconds per day.

Fault:

Test Equipment/Jig	Test Equipment Connection Points	VTR State	Adjustment Point
● Frequency counter	● IC751 PIN 52 ● IC751 PIN 53 (–)	● Stop mode	● C770 (4.19 MHz CRYSTAL)

Connection Diagram



TIMER CIRCUIT BOARD (Components Side)

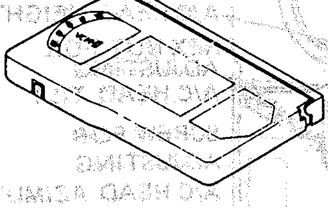
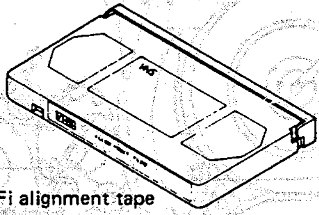
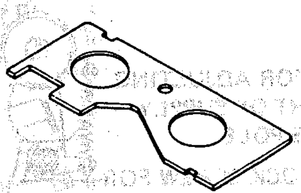
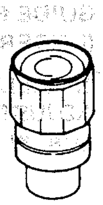
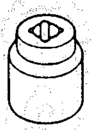
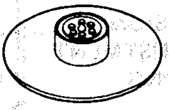
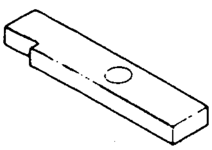
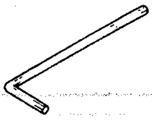
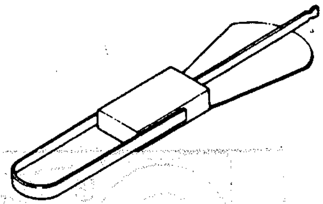
Adjustment Procedure

1) Set the counter gate time to 10 seconds.
2) When performing measurement with the probe attached to the oscillation circuit, a delay of 2.35 seconds per day occurs. (It is not possible to adjust directly.)
3) Perform measurement using a frequency counter with 6 or more effective digits, taking the drift of probe into account.
4) Set the adjustment frequency to f = 4.194190.
   ① Frequency counter with 7 effective digits
   f = 4.194190
   Error range: f = 4.1914189 – 4.194191
   Difference per day: ± 0.021 second
   ② Frequency counter with 6 effective digits
   f = 4.19419
   Error range: f = 4.19418 – 4.19420
   Difference per day: +0.207 seconds
   –0.206

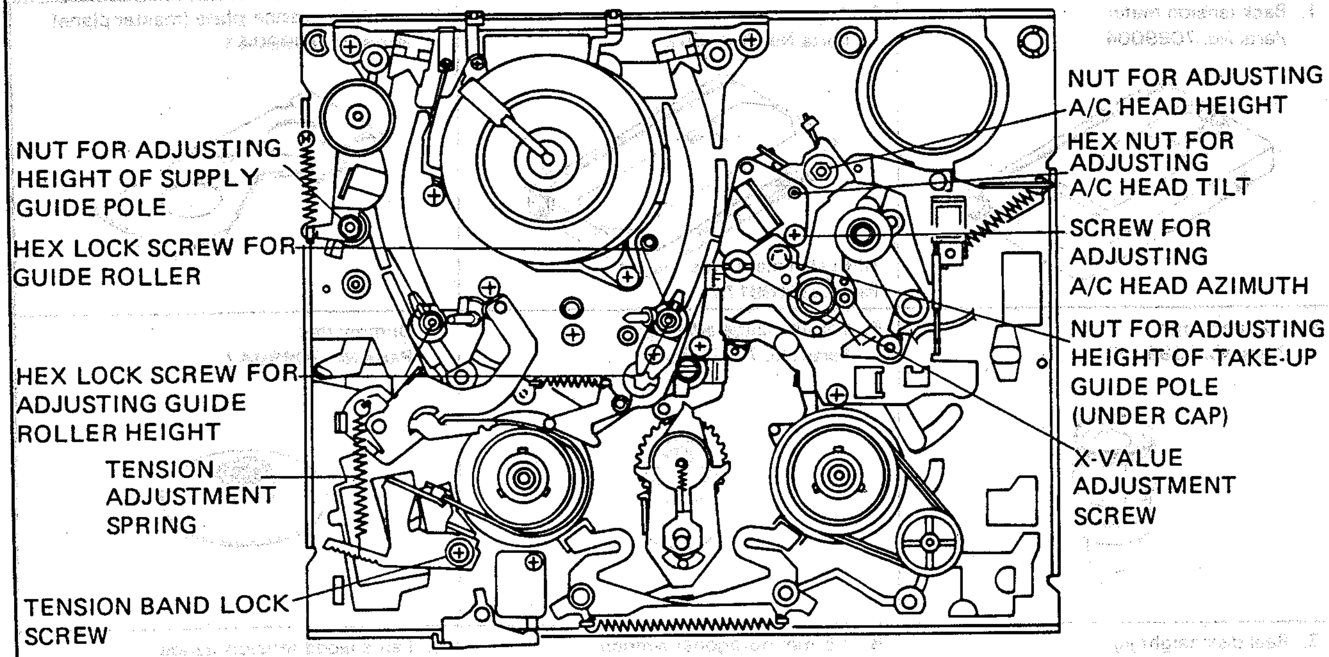
Note: Set the probe to 10:1 (18 pF ~ 22 pF) for use.

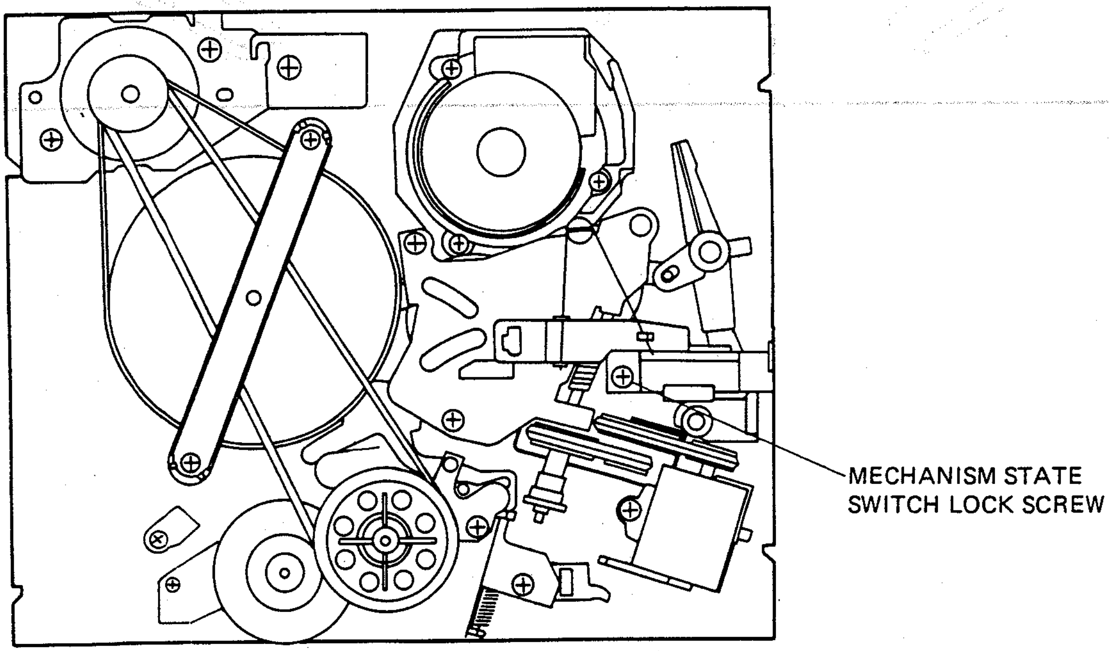
MECHANISM ADJUSTMENT

SERVICING JIGS AND TOOLS

1. Back tension meter Parts No. 7099004 	2. Alignment tape Parts No. 7099052  Hi-Fi alignment tape Part No. 7099175	3. Height reference plate (master plane) Parts No. 7099041 
4. Torque gauge Parts No. 7099039 	5. Torque gauge adaptor Parts No. 7099035 	6. Dummy reel Parts No. 7099043 
7. Reel disk height jig Parts No. 7099038 	8. 1.5 mm hexagonal wrench 	9. Fan-shaped tension gauge 

LIST OF ADJUSTMENT LOCATIONS


NUT FOR ADJUSTING HEIGHT OF SUPPLY GUIDE POLE
HEX LOCK SCREW FOR GUIDE ROLLER
HEX LOCK SCREW FOR ADJUSTING GUIDE ROLLER HEIGHT
TENSION ADJUSTMENT SPRING
TENSION BAND LOCK SCREW
NUT FOR ADJUSTING A/C HEAD HEIGHT
HEX NUT FOR ADJUSTING A/C HEAD TILT
SCREW FOR ADJUSTING A/C HEAD AZIMUTH
NUT FOR ADJUSTING HEIGHT OF TAKE-UP GUIDE POLE (UNDER CAP)
X-VALUE ADJUSTMENT SCREW


MECHANISM STATE SWITCH LOCK SCREW

MECHANICAL COMPONENT ADJUSTMENT

1. Mechanism State Switch Adjustment

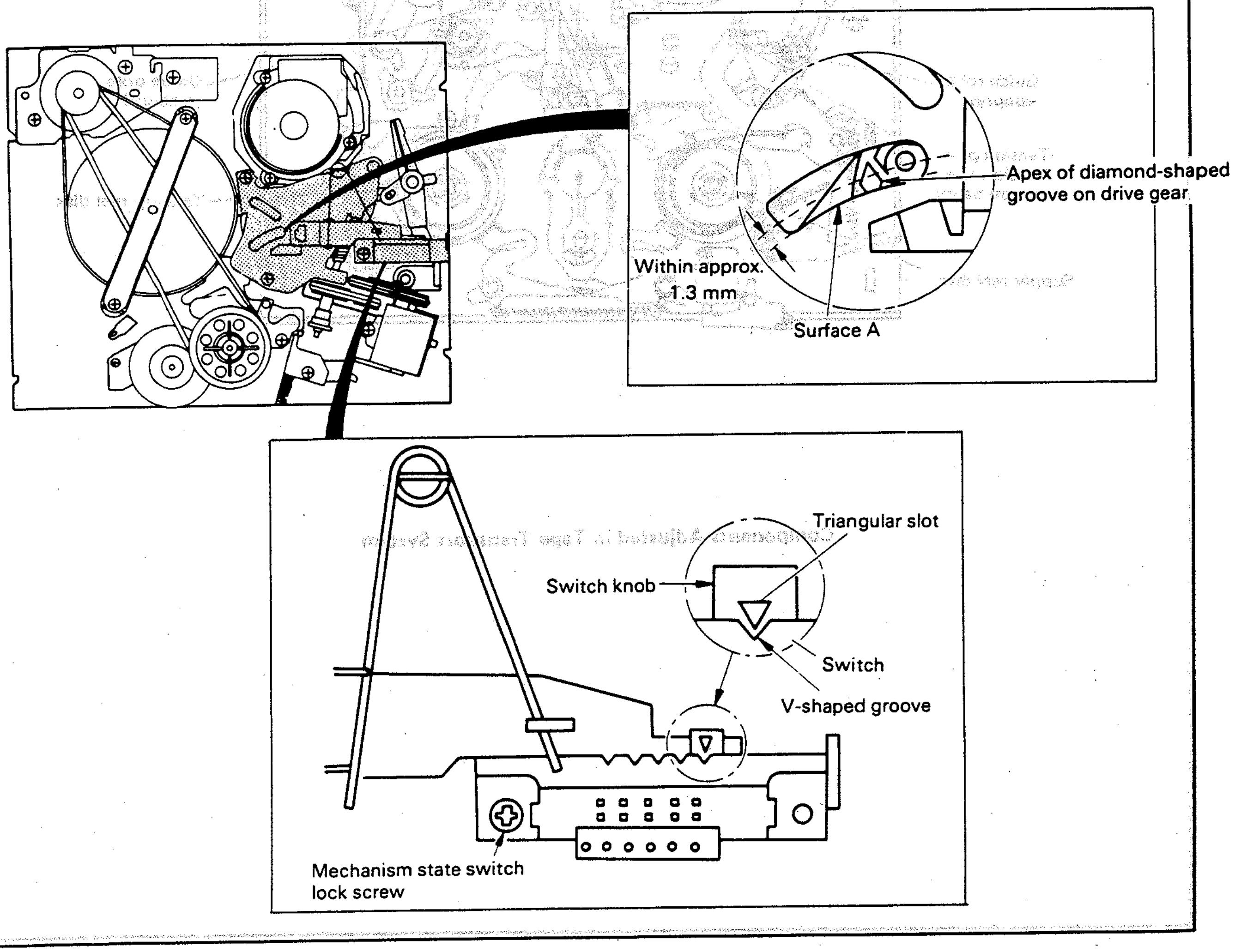
Purpose: Accurately detect mechanism states and prevent malfunction.

Test Equipment/Jigs	VTR State	Adjustment Point
● Blank tape	● Stop mode	● Mechanism state switch lock screw

Adjustment Procedure

1) Turn the worm pulley by hand. Position the apex of the diamond-shaped groove on the drive gear so that it is within 1.3 mm from the A surface of the gear plate.
2) Loosen the lock screw on the mechanism state switch. Slide the switch so that the apex of the triangular slot on the switch knob is aligned with the V-shaped groove on the extreme outside of the switch.
3) Loosen the lock screw. Insert the blank tape in the cassette holder. Check to make sure that all unloading and loading operations are correct.

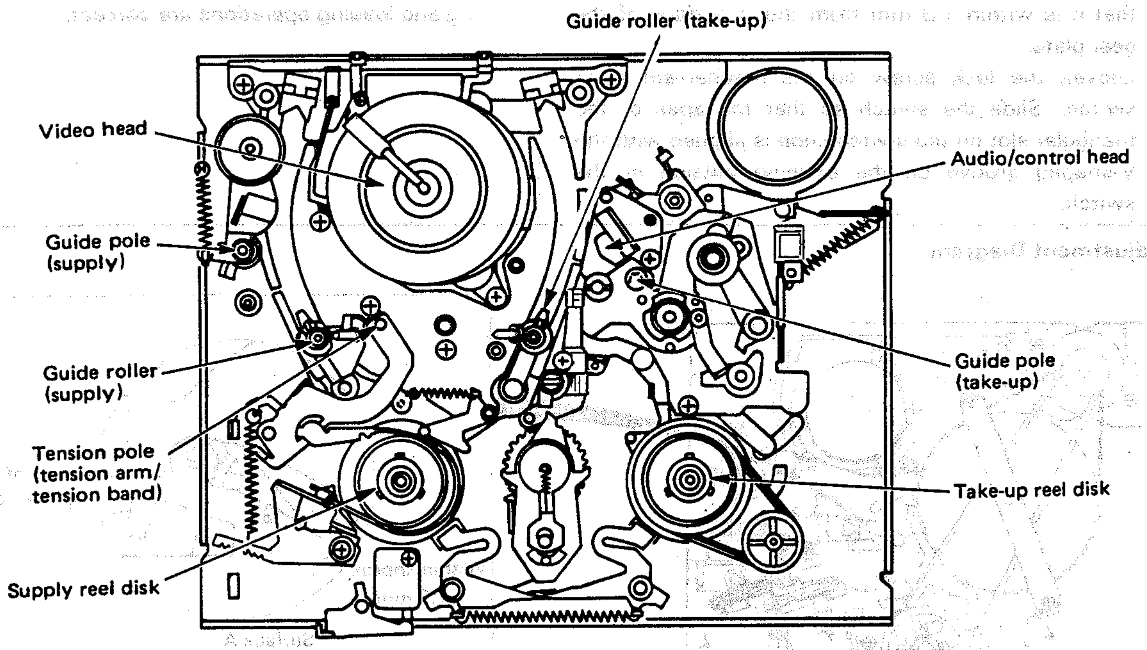
Adjustment Diagram


Apex of diamond-shaped groove on drive gear
Within approx. 1.3 mm
Surface A
Triangular slot
Switch knob
Switch
V-shaped groove
Mechanism state switch lock screw

TAPE TRANSPORT SYSTEM ADJUSTMENT

The transport system is the system in which tape moves from the supply reel disk, over the video head and then to the take-up reel disk. The components in the tape transport system must be perfectly clean, particularly those that come into contact with the tape.

These components must have no scratches, no dust, no oil on them. The tape transport system is adjusted at the factory prior to shipping. When components need to be replaced, accurately adjusting the new components ensures that the tape transport system will operate stably.


Guide roller (take-up)
Video head
Audio/control head
Guide pole (supply)
Guide roller (supply)
Guide pole (take-up)
Tension pole (tension arm/ tension band)
Take-up reel disk
Supply reel disk

Components Adjusted in Tape Transport System

1. Reel Disk Height Adjustment

Purpose: Determine correct tape height by setting cassette tape reel to the specified height.

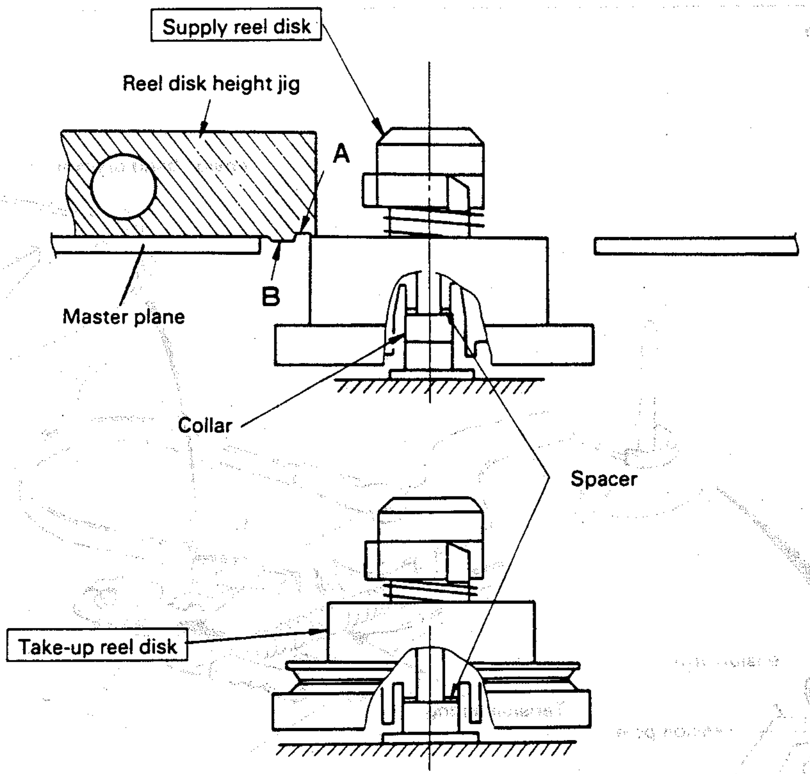
Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig	1) Remove chassis holder 2) Mount master plane and place reel disk height jig on it.	● Spacers in supply and take-up reel disks.

Adjustment Procedure

1) Make sure the reel disk is correctly positioned between points A and B on the reel disk height jig.
2) If the reel disk will not fit between points A and B, replace the spacer in the reel disk or adjust the number of spacers (0.25 mm and 0.5 mm thicknesses).

Caution:
If the tension arm/tension band have been removed, adjust the tension pole's position and tension after reassembling.

Adjustment Diagram


Supply reel disk
Reel disk height jig
A
B
Master plane
Collar
Spacer
Take-up reel disk

2. Tension/Tension Pole Position Adjustments

Purpose: Stabilize contact between video head and tape being supplied so that the tape tension is uniform throughout.

Test Equipment/Jigs	VTR State	Adjustment Point
● Flat-bladed screwdriver ● Tension cassette	1) Remove top cover 2) Place VTR in loading state without cassette inserted (see 4-17). **Tension adjustment** 3) Play tension cassette	**Position adjustment:** Tension band lock screw **Tension:** Tension spring hook position

Adjustment Procedure

Position Adjustment

1) Loosen lock screw on tension band. Insert flat bladed screwdriver in slot in bracket and chassis.
2) Use the screwdriver to slide the bracket for a 1 ~ 2 mm interval between the tension pole and chassis.
3) Tighten the lock screw on the tension band.
4) After adjusting, reload without inserting the tape and recheck the position of the tension pole.

Tension Adjustment

Reading of tension cassette:

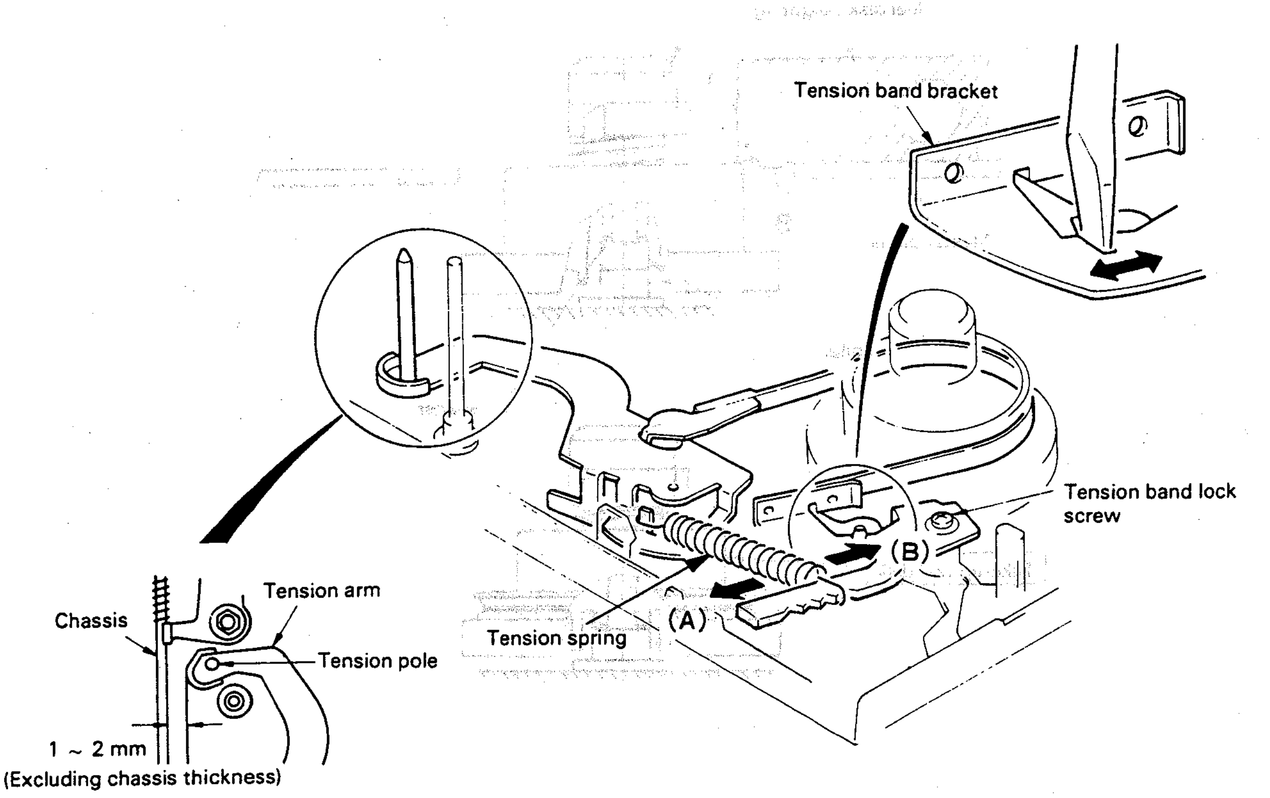
30 ~ 40 g-cm. (reference value)

If tension is higher than the reference value, move the spring in direction A.

If tension is lower than the reference value, move the spring in direction B.

Caution: If a 6 g-cm or larger change is made in tension position, recheck tension pole position. If the position is off, readjust the tension pole's position and tension.

Adjustment Diagram



3. Guide Pole Height Adjustment

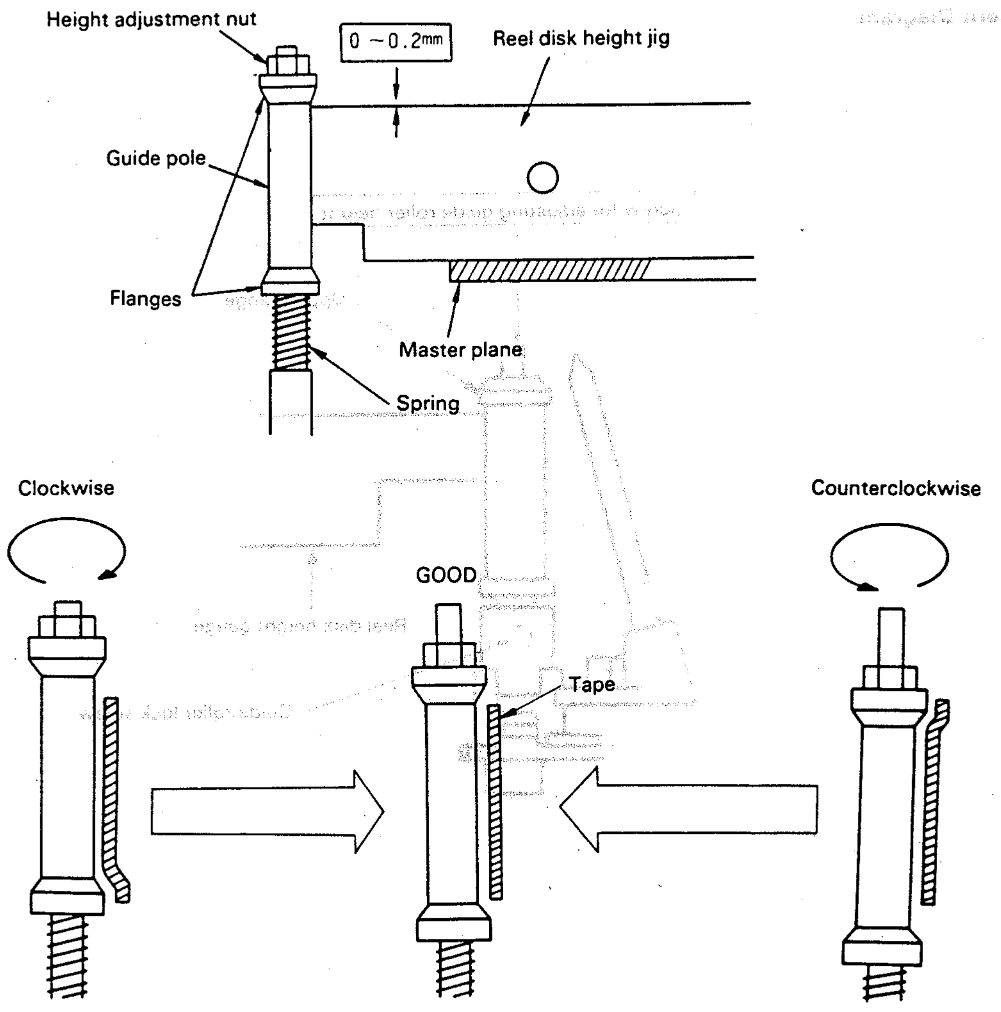
Purpose: Control tape height.

Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig ● Blank tape	1) Remove chassis holder 2) Mount master plane and place the reel disk height jig on it.	● Nut for adjusting height of supply and take-up guide poles (take-up pole is under cap).

Adjustment Procedure

1) Adjust gap between guide pole's upper flange and reel disk height jig to 0 ~ 0.2 mm.
2) Load and run the blank tape. Check to make sure the tape does not ride over the pole's upper or lower flange.
3) If the tape does ride over, adjust guide pole height. If tape rides over upper flange, turn adjustment nut counterclockwise. If tape rides over lower flange, turn adjustment nut clockwise.

Adjustment Diagram


Height adjustment nut
0 ~ 0.2mm
Reel disk height jig
Guide pole
Flanges
Master plane
Spring
Clockwise
GOOD
Tape
Counterclockwise

4. Guide Roller Height Adjustments

Purpose: Control tape height so the tape's bottom edge runs along the cylinder's tape guide line.

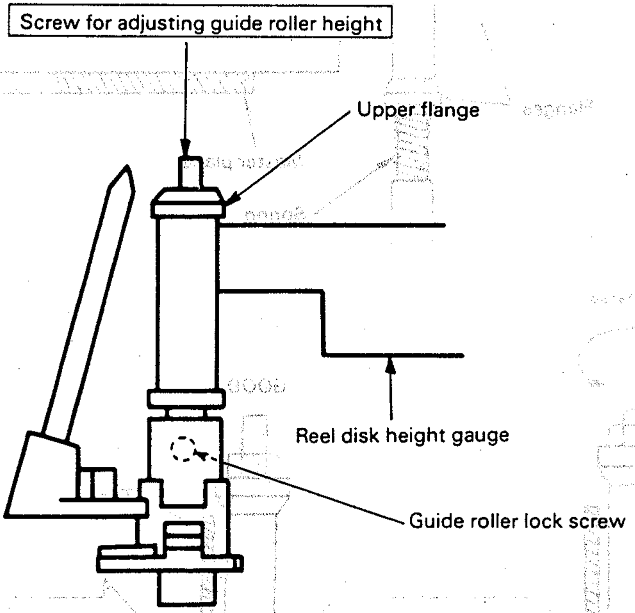
Coarse Adjustment

Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig ● 1.5 mm hexagonal wrench	1) Remove chassis holder 2) Mount master plane and place reel disk height jig on it.	● Screws for adjusting height of supply and take-up guide roller

Adjustment Procedure

1) Loosen guide roller lock screw so that the guide roller does not turn during loading, unloading and playback.
2) Set the upper edge of the reel disk height jig to the same level as the guide roller's upper flange.
3) Now make precision adjustments.

Adjustment Diagram

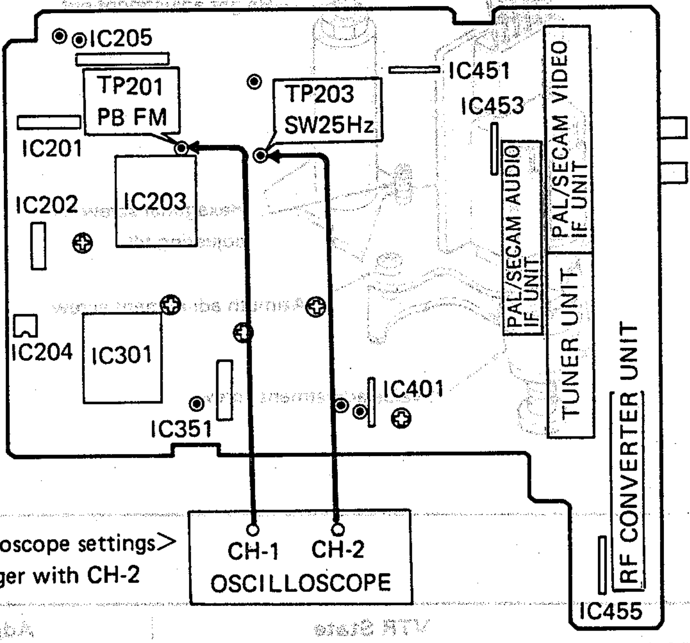

Screw for adjusting guide roller height
Upper flange
Reel disk height gauge
Guide roller lock screw

Precision Adjustment

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape ● Hexagonal wrench	● CH-1:TP201(PB FM) ● CH-2:TP203(SW25Hz)	● Play back alignment tape	● Screw for adjusting guide roller height

Connection Diagram

MAIN CIRCUIT BOARD (Components Side)


IC205
TP201
PB FM
TP203
SW25Hz
IC451
IC453
IC201
IC202
IC203
PAL/SECAM AUDIO
PAL/SECAM IF UNIT
PAL/SECAM VIDEO IF UNIT
TUNER UNIT
RF CONVERTER UNIT
IC204
IC301
IC401
IC351
CH-1
CH-2
OSCILLOSCOPE
IC455

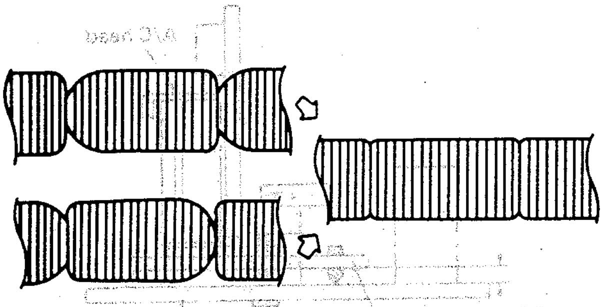
<Oscilloscope settings>

○ Trigger with CH-2

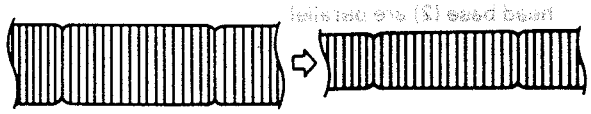
Adjustment Procedure

1) Tracking control: centred (when making this adjustment after replacing the cylinder, set the tracking control so the FM output is maximum).
2) Turn height adjustment screw to flatten the FM waveform.
3) Turn the tracking control clockwise.
4) Make sure that FM drops at the head and tail.
5) Tighten lock screw.

Waveform



Turn guide roller height adjustment screw a little at a time to flatten waveform.

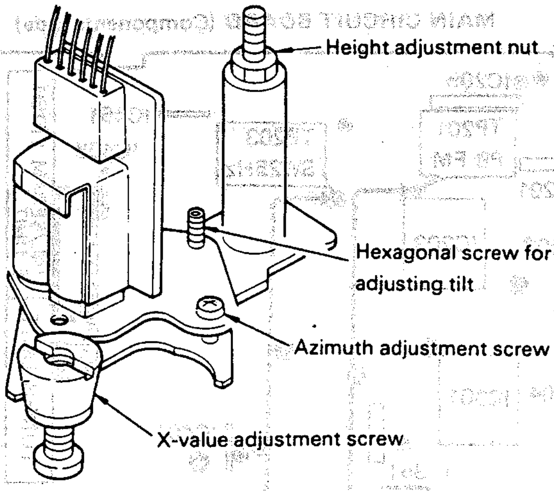


Tracking control centred

Turn tracking control clockwise

5. Audio and Control Head

Purpose: Ensure uniform contact between tape and head to record and play presceibed track.


Height adjustment nut
Hexagonal screw for adjusting tilt
Azimuth adjustment screw
X-value adjustment screw

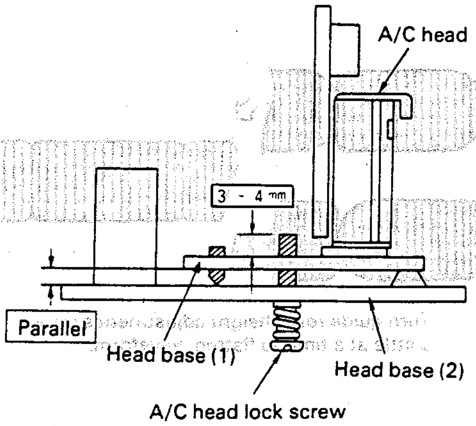
Coarse Adjustment

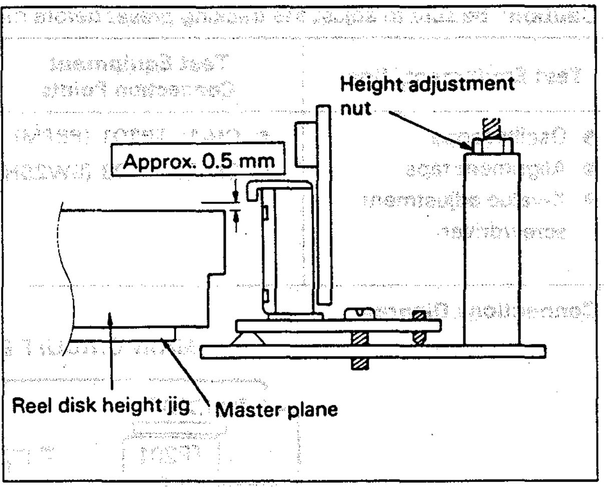
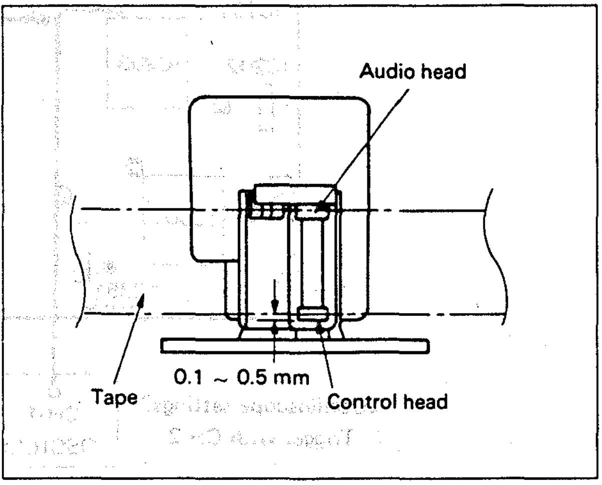
Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig ● Blank tape ● Hexagonal wrench	1) Remove chassis holder 2) Mount master plane and place reel disk height jig on it.	● Azimuith adjustment screw ● Height adjustment nut ● Tilt adjustment screw

Adjustment Procedure

1) Tighten the A/C head lock screw through the spring from the bottom of head base (2) until the screw tip protrudes 3 ~ 4 mm from the top surface of head base (1).
2) Turn the tilt adjustment hexagonal screw and the azimuth adjustment screw so that head base (1) and head base (2) are parallel.

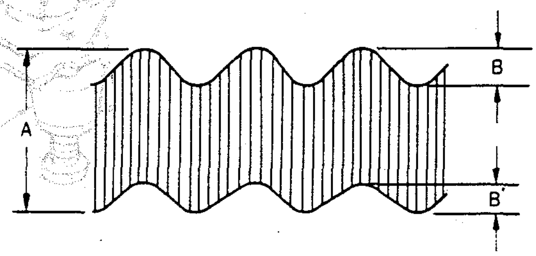
Adjustment Diagram


A/C head
3 - 4 mm
Parallel
Head base (1)
Head base (2)
A/C head lock screw

Adjustment Procedure	Adjustment Diagram
3) Turn the height adjustment nut until the gap between reel disk height jig and A/C head is approx. 0.5 mm.	 Height adjustment nut Approx. 0.5 mm Reel disk height jig Master plane
4) Remove the adjustment jigs and insert a blank tape. Place in playback mode. Make sure the tape does not curl or ride over around the A/C head. If the tape curls or rides over, readjust the tilt adjustment hex screw, the azimuth adjustment screw and the height adjustment nut. The ideal A/C head height is with the tap's bottom edge 0.1 ~ 0.15 mm from the bottom edge of the control head's core. 5) Now move on to precision adjustment.	 Audio head Tape 0.1 ~ 0.5 mm Control head

Precision Adjustment

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Points
● Hexagonal wrench ● Oscilloscope ● Alignment tape	● Audio output	● Play back alignment tape (7 kHz portion)	● Azimuth adjustment screw ● Height adjustment nut ● Tilt adjustment screw

Adjustment Procedure	Waveform Diagram
1) Alternate turn, a little at a time, the azimuth adjustment screw, the height adjustment nut and the tilt adjustment hex screw to both maximize and flatten audio output (minimize fluctuations).	 A B B' A: maximum BB': minimum

6. X Value Adjustment

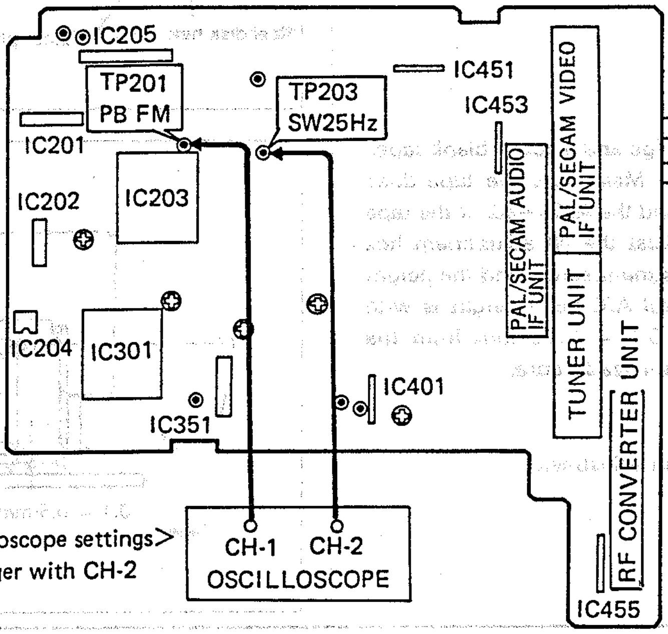
Purpose: Ensure compatibility with other VTRs.

Caution: Be sure to adjust the tracking preset before making this adjustment.

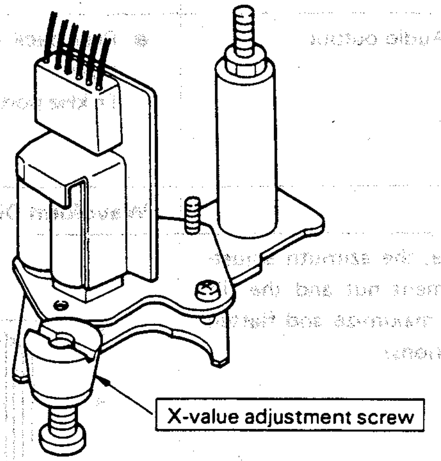
Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape ● X-value adjustment screwdriver	● CH-1: TP201 (PBFM) ● CH-2: TP203 (SW25Hz)	● Play back alignment tape	● X-value adjustment screw

Connections Diagram

MAIN CIRCUIT BOARD (Components Side)

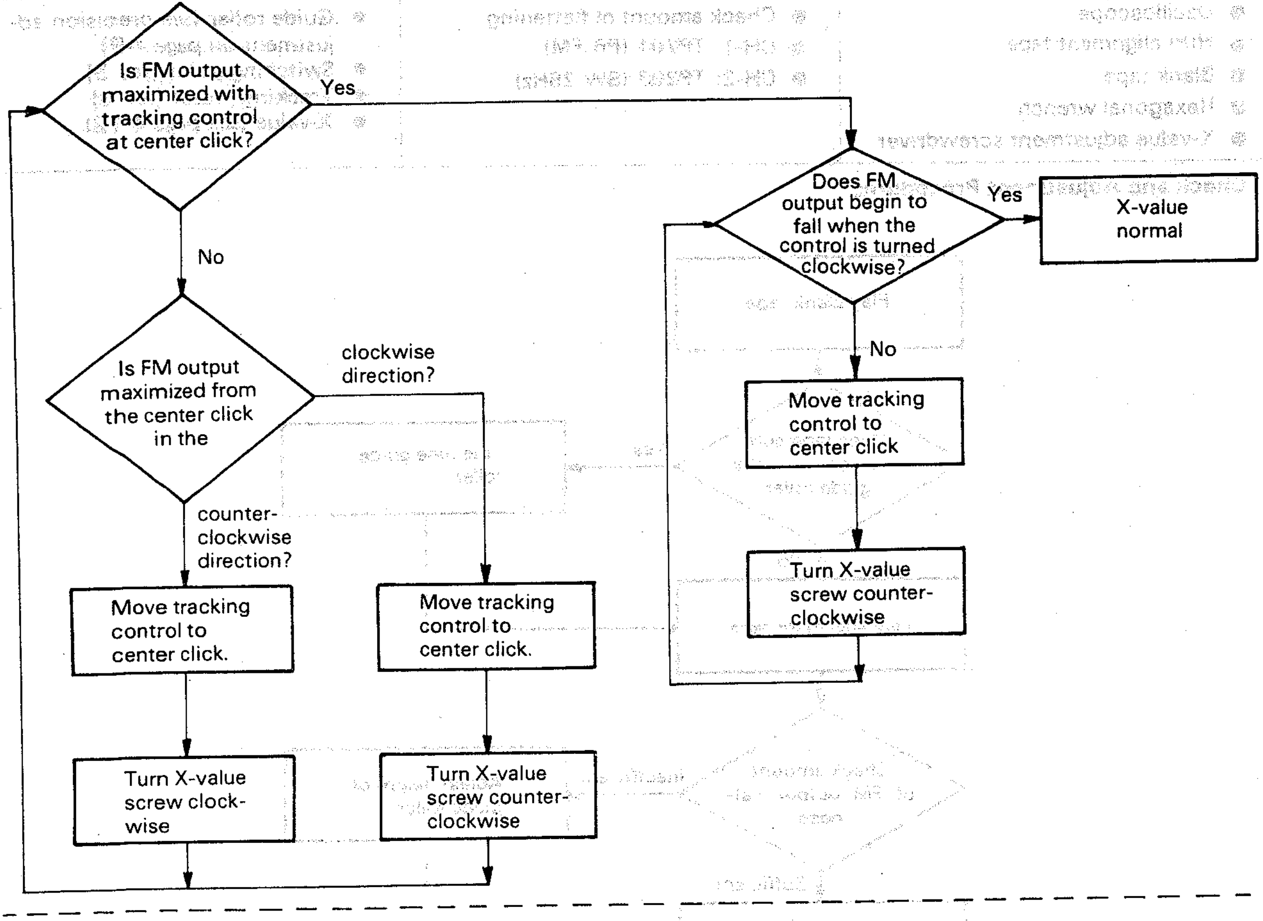

IC205
TP201 PB FM
TP203 SW25Hz
IC451
IC453
IC201
IC202
IC203
IC204
IC301
IC351
IC401
PAL/SECAM AUDIO IF UNIT
PAL/SECAM VIDEO IF UNIT
TUNER UNIT
RF CONVERTER UNIT
IC455
CH-1
CH-2
OSCILLOSCOPE

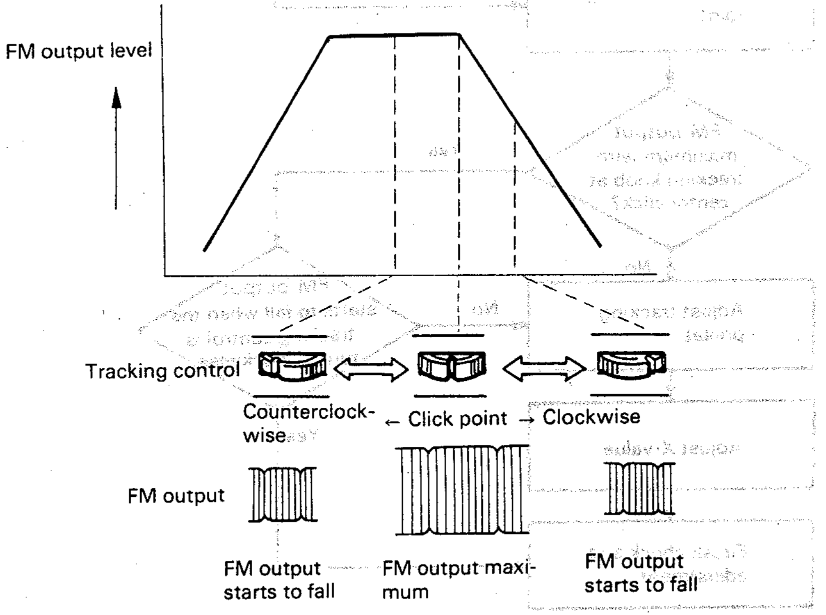
<Oscilloscope settings>
○ Trigger with CH-2


X-value adjustment screw

Adjustment Procedure

Since the 65 µm head will trace over 49 µm width track, center tracking control and make adjustments to maximize FM output, or turn the control clockwise about 30° and adjust so that FM output begins to fall. (Is FM output maximized with tracking control at center click?)


Is FM output maximized with tracking control at center click?
Yes
No
Is FM output maximized from the center click in the
clockwise direction?
counter-clockwise direction?
Move tracking control to center click.
Turn X-value screw clockwise
Move tracking control to center click.
Turn X-value screw counter-clockwise
Does FM output begin to fall when the control is turned clockwise?
Yes
X-value normal
No
Move tracking control to center click
Turn X-value screw counter-clockwise

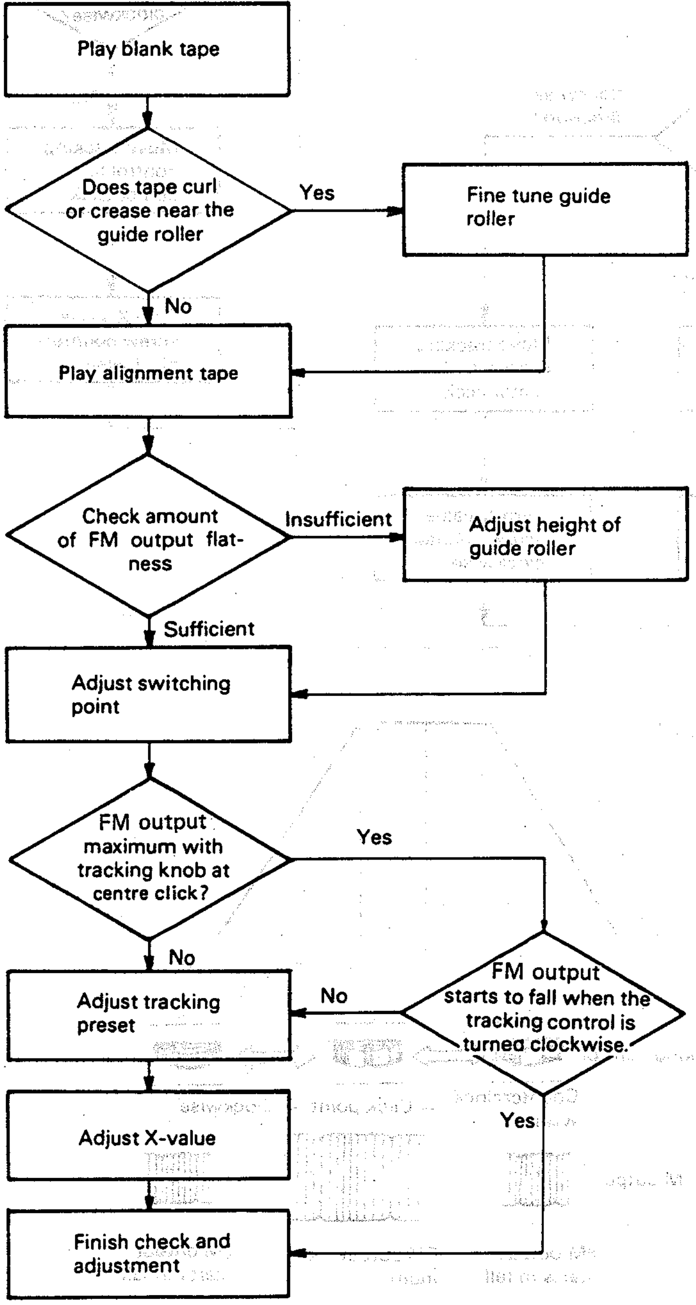

FM output level
Tracking control
Counterclockwise
← Click point →
Clockwise
FM output
FM output starts to fall
FM output maximum
FM output starts to fall

7. Adjustments after replacing Cylinder (Video Heads)

Purpose: A new replacement cylinder will differ with the guide roller in X-value and relative height. But, correct replacement procedure will reduce this disparity to a minimum.

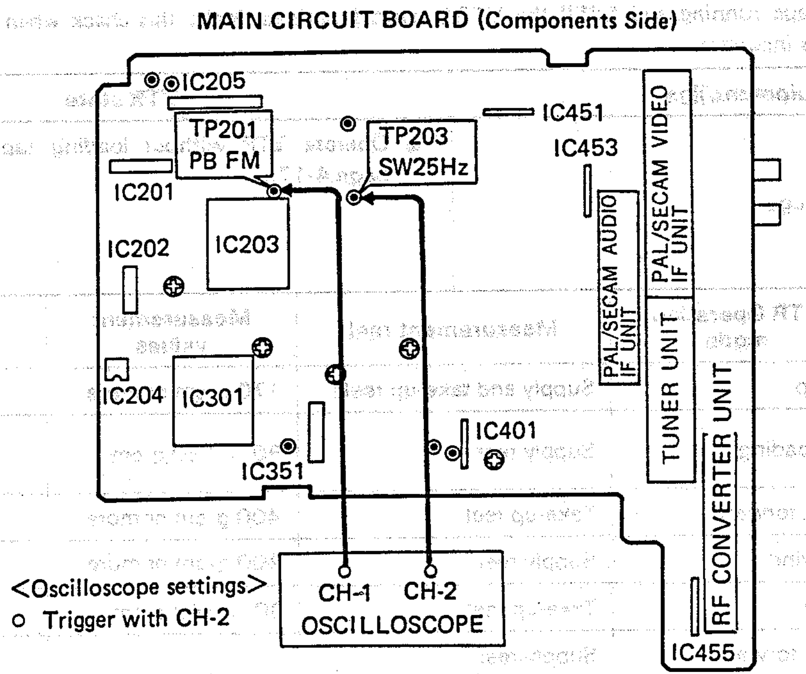
Test Equipment/Jigs	Test Equipment Connection Points	Adjustment Points
● Oscilloscope ● HiFi alignment tape ● Blank tape ● Hexagonal wrench ● X-value adjustment screwdriver	● Check amount of flattening ● CH-1: TP201 (PB FM) ● CH-2: TP203 (SW 25Hz)	● Guide roller (see precision adjustment on page 4-9) ● Switching point (see 3) ● Tracking preset (see 3) ● X-value (see page 4-12)

Check and Adjustment Procedures



Play blank tape
Does tape curl or crease near the guide roller
Yes
Fine tune guide roller
No
Play alignment tape
Check amount of FM output flatness
Insufficient
Adjust height of guide roller
Sufficient
Adjust switching point
FM output maximum with tracking knob at centre click?
Yes
No
Adjust tracking preset
No
FM output starts to fall when the tracking control is turned clockwise.
Yes
Adjust X-value
Finish check and adjustment

Connection Diagram

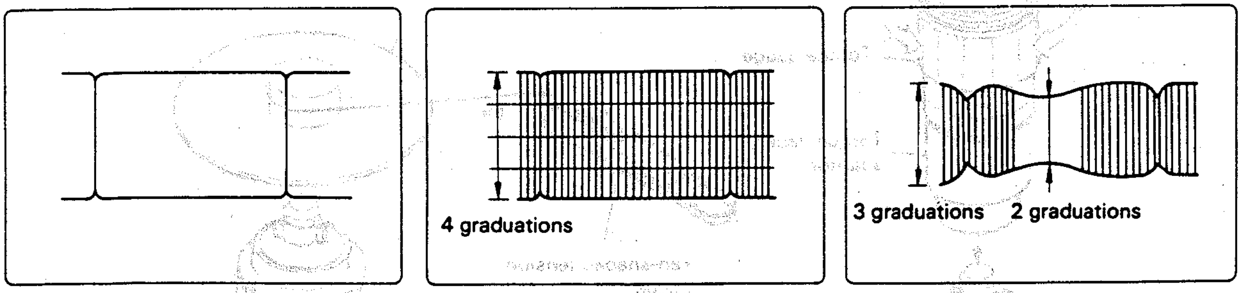

MAIN CIRCUIT BOARD (Components Side)
IC205
TP201
PB FM
TP203
SW25Hz
IC451
IC453
IC201
IC202
IC203
IC204
IC301
IC351
IC401
PAL/SECAM AUDIO IF UNIT
PAL/SECAM VIDEO IF UNIT
TUNER UNIT
RF CONVERTER UNIT
IC455
CH-1
CH-2
OSCILLOSCOPE

<Oscilloscope settings>
o Trigger with CH-2

Procedures for checking amount of fluctuations and flatness in FM output

1) Use tracking control to maximize FM output.
2) Fine tune the oscilloscope's voltage level range to adjust FM output to 4 graduations.
3) Turn the tracking control to set the FM output's maximum amplitude at 3 graduations.
4) Make sure the minimum amplitude at this time is at 2 graduations or higher.
5) Make sure the difference between maximum and minimum level fluctuations is 13% or less.

Waveform Diagram


4 graduations
3 graduations
2 graduations

8. Checking Tension and Torque

Purpose: Checking tension torque and pressure on the components that wind and move the tape is necessary to ensure smooth tape running and fulfill the VTR's basic functions. Make this check when tape run is rough or tape speed is incorrect.

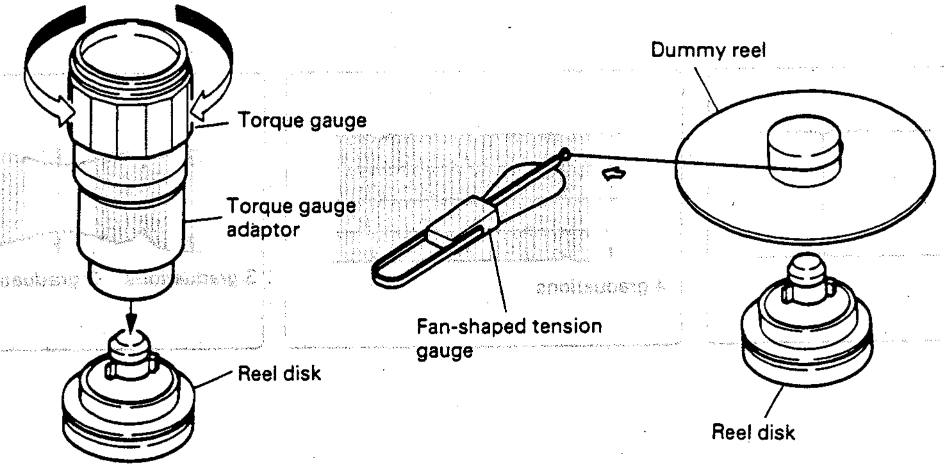
Test equipment/jigs	VTR state
● Torque gauge ● Torque gauge adaptor ● Fan-shaped tension gauge ● Dummy reel	● Operate VTR without loading tape cassette (see page 4-17)

Item	VTR Operation mode	Measurement reel	Measurement values	Remarks
Main brake torque	Stop	Supply and take-up reels	170 g·cm or more	Note 1
Slack removal torque	Unloading	Supply reel	90 ~ 190 g·cm	Note 1
Fast forward torque	Fast forward	Take-up reel	400 g·cm or more	Note 1
Rewind torque	Rewind	Supply reel	400 g·cm or more	Note 1
Reel winding torque	Play	Take-up reel	90 ~ 180 g·cm	Note 1
Back-tension torque	Fast forward	Supply reel	4 ~ 15 g·cm	Note 2
	Rewind	Take-up reel		

Note: 1. Value when using torque gauge and torque gauge adaptor for measurement with torque gauge sliding at 0.8 rps. However, main brake torque indicates measurement values during manual rotation of take-up reel, counterclockwise, and supply reel, clockwise, at 0.8 rps.

Note: 2. Indicates the value when the dummy reel and fan-shaped tension gauge are used to measure the take-up reel disk pulling counterclockwise and the supply reel disk pulling clockwise at 50 mm/s.

Adjustment Diagram



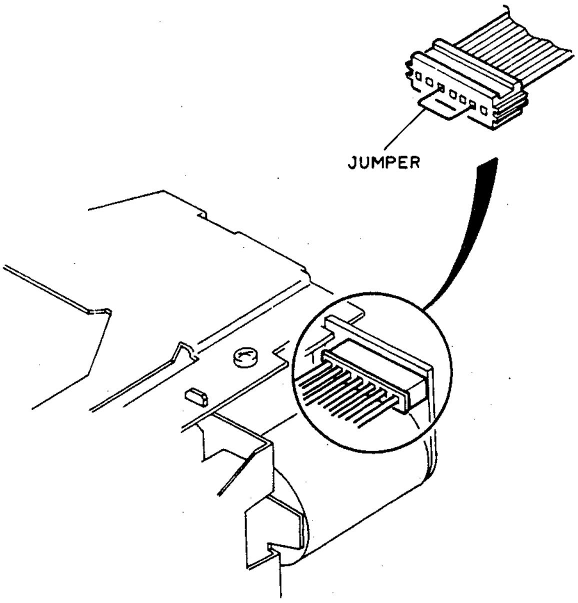
Note: Method to place VTR in loading state without tape cassette inserted.

1) Remove top cover.
2) Remove AC plug from wall socket.
3) Disconnect the connector from the plug (PG-4) on the cassette loading motor circuit board.
4) Short-circuit pins 2 and 5 of the connector.
5) Insert AC plug into wall socket.
6) Turn VTR power on.
   In this state, the VTR will accept all modes. However, rewind can be performed for only a few seconds because the take-up disk is in stop state and reel pulses cannot be detected.

[Caution]

After the above operations, always use the following steps to return to the original modes.

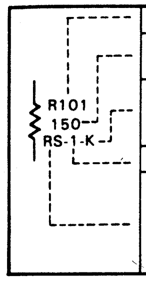
1) Remove short-circuit from connector and insert in plug.
2) Remove the AC plug from the wall socket once to reset the system control microprocessor.

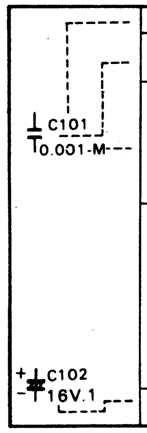


SCHEMATIC/CIRCUIT BOARD DIAGRAMS

Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
   (   ) are shown in recording condition.
2. Nomenclature of Resistors and Capacitors.

	Circuit No.	
	Value	No indicated Ω (Ohm) M : 1000kΩ
	Tolerance	No indicated ± 5% K: ± 10% M: ± 20%
	Wattage	No indicated ¼ W
	Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film

	Circuit No.		
	Value	No indicated μF P : PF	
	Tolerance	No indicated ± 10% J : ± 5% M : ± 20% Z : + 80%, − 20% D : ± 0.5pF C : ± 0.25pF	
	Sort		Ceramic
		+ −	Electrolitic
		M	Mylar
		P	Polyester
		S	Styrol
	Voltage	No indicated 50WV	

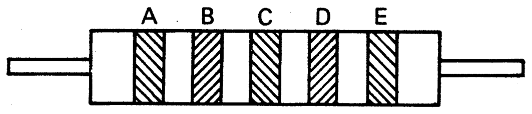
3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with * use specified ones stated on parts list since required temperature characteristics.

Cautions on use of MOS IC

1. The MOS IC is inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during their storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
2. High voltages may be applied during soldering caused by leakages from the soldering iron, so be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
3. The human body, clothes made of synthetic fibres or nylon gloves may be charged with several thousands volts of static electricity because of friction, so a worker should be grounded.
4. Be sure to ground measuring instruments such as oscilloscopes, VTVMs, etc. used for repairs.

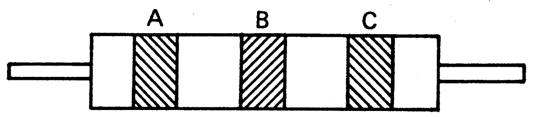
HOW TO READ CAPACITY AND INDUCTANCE OF RESISTOR SHAPE CAPACITORS AND COILS

CAPACITOR



CAPACITY: (10A+B)xC [PF]
TOLERANCE: D
RATED VOLTAGE: BODY COLOR
Pink: 25V
Green: 50V
CHARACTERISTICS: E

COIL



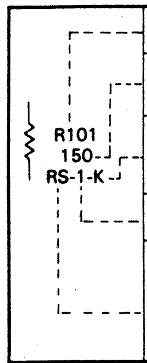
INDUCTANCE: (10A+B)xC [μH]

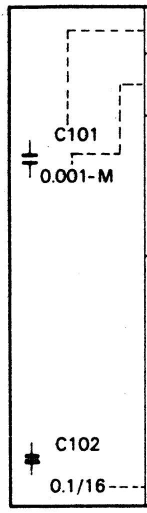
COLOR	A, B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Grey	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	± 5%	
Silver		10^{-2}	±10%	High dielectric constant type

SCHEMAS DE PRINCIPE ET DE MONTAGE

N.B.:

1. Tension mesurée à la base du châssis avec un réglage de volume minimum et sans injection de signal, les valeurs mises entre parenthèses (   ) correspondent à des conditions d'enregistrement.
2. Nomenclature des résistances et des condensateurs.

	No. de circuit	
	Valeur	No. indiqué en ohm M: 1000k ohms
	Tolérance	No. indiqué ± 5% K: ± 10% M: ± 20%
	Wattage	No. indiqué 1/4 de W
	Catégorie	No. indiqué de film en carbone RC: composition RW: Bobinage de fil RS: Film métal-oxyde RN: Film métal-fixe

	No. de circuit		
	Valeur	No. indiqué en picofarad p. pF	
	Tolérance	No. indiqué ± 10% J: ± 5% M: ± 20% Z: − 20% D: ± 0,5pF C: ± 0,25pF	
	Catégorie		Céramique
		+ −	Electrolytique
		M	Mylar
		P	Polyestère
		S	Styrol
	Tension	No. indiqué 50W	

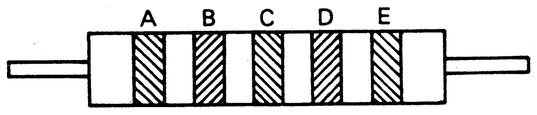
3. Passez vos commandes de résistances et de condensateurs en indiquant précisément les références des résistances et des condensateurs en valeur, tension, tolérance et catégorie.
4. Lors du remplacement des condensateurs identifiés par le signe*, se servir de condensateurs spécifiques tels qu'ils sont mentionnés dans la liste des pièces de rechange étant donné qu'ils sont soumis à des caractéristiques de température spéciales.

Précautions à prendre lors de la manipulation des circuits MOS IC

1. Les circuits MOS IC sont placés dans une boîte contenant de la mousse synthétique expansée pour que soit facilité leur envoi. Cette mousse synthétique expansée est en fait un conducteur réalisant un shunt entre les fils aux fins de protection du MOS. Ne jamais retirer le circuit de la mousse synthétique expansée pendant sa période de stockage. Eviter de retirer les circuits de cette mousse synthétique expansée et de les poser sur de la matière plastique ou un autre matériau susceptible de se charger d'électricité statique ou de les placer dans de la mousse en styrol.
2. De hautes tensions risquent d'être appliquées aux circuits au cours d'opérations de soudage parce que des fuites de courant proviennent du fer à souder: il est donc impératif de mettre l'extrémité du fer à souder à la terre ou de se servir d'un fer à souder basse tension.
3. Le corps humain, les vêtements en fibres synthétiques ou les gants en nylon peuvent se charger de plusieurs centaines de volts d'électricité statique à la suite d'une friction, ce qui oblige le dépanneur à se mettre à la terre.
4. Les appareils de mesure tels que les oscilloscopes, voltmètres électroniques, etc., doivent être mis à la terre pendant la durée du dépannage.

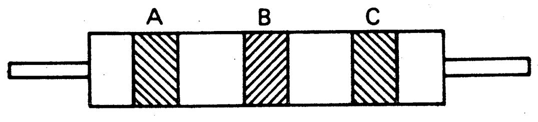
COMMENT INTERPRÉTER LA CAPACITÉ ET L'INDUCTANCE DES CONDENSATEURS À FORM DE RÉSISTANCE ET DES BOBINAGES

CONDENSATEUR



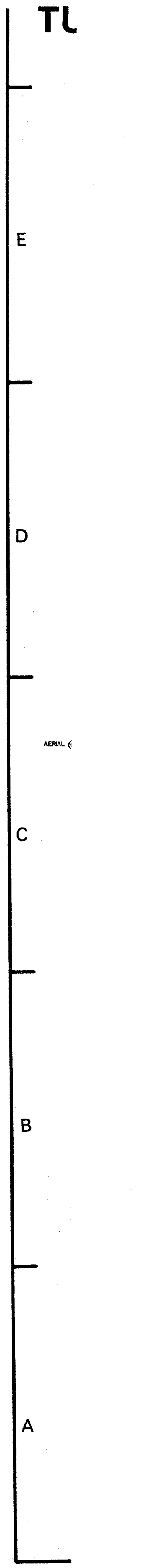
Capacité: (10A + B) × C [PF]
Tolérance: D
Tension nominale: Teinte du boîtier:
Rose: 25V
Vert: 50V
Caractéristiques: E

BOBINAGE



Inductance: (10A + B) × C [μH]

Teinte	A, B	C	D	E
Noir	0	10^0	± 20%	Compensation de température
Brun	1	10^1		
Rouge	2	10^2		
Orange	3	10^3		
Jaune	4	10^4		
Vert	5	10^5		
Bleu	6			
Violet	7			
Gris	8		± 30%	Type à haute constante diélectrique
Blanc	9			Compensation de témpérature
Or		10^{-1}	± 5%	
Argent		10^{-2}	± 10%	Type à haute constante diélectrique



CE OF

pensation

nt type

pensation

nt type

SCHEMAS DE PRINCIPE ET DE MONTAGE

N.B.:

1. Tension mesurée à la base du châssis avec un réglage de volume minimum et sans injection de signal, les valeurs mises entre parenthèses (   ) correspondent à des conditions d'enregistrement.
2. Nomenclature des résistances et des condensateurs.

		No. de circuit
R101 150- RS-1-K	Valeur	No. indiqué en ohm M: 1000k ohms
	Tolérance	No. indiqué ± 5% K: ± 10% M: ± 20%
	Wattage	No. indiqué 1/4 de W
	Catégorie	No. indiqué de film en carbone RC: composition RW: Bobinage de fil RS: Film métal-oxyde RN: Film métal-fixe

		No. de circuit	
C101 0.001-M	Valeur	No. indiqué en picofarad p. pF	
	Tolérance	No. indiqué ± 10% J: ± 5% M: ± 20% Z: - 20% D: ± 0,5pF C: ± 0,25pF	
	Catégorie	╪	Céramique
		╪	Electrolytique
		╪	Mylar
		╪	Polyestère
		╪	Styrol
C102 0.1/16	Tension	No. indiqué 50W	

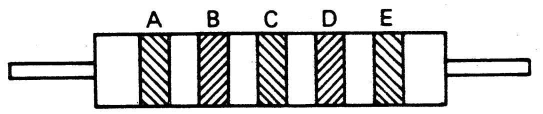
3. Passez vos commandes de résistances et de condensateurs en indiquant précisément les références des résistances et des condensateurs en valeur, tension, tolérance et catégorie.
4. Lors du remplacement des condensateurs identifiés par le signe*, se servir de condensateurs spécifiques tels qu'ils sont mentionnés dans la liste des pièces de rechange étant donné qu'ils sont soumis à des caractéristiques de température spéciales.

Précautions à prendre lors de la manipulation des circuits MOS IC

1. Les circuits MOS IC sont placés dans une boîte contenant de la mousse synthétique expansée pour que soit facilité leur envoi. Cette mousse synthétique expansée est en fait un conducteur réalisant un shunt entre les fils aux fins de protection du MOS. Ne jamais retirer le circuit de la mousse synthétique expansée pendant sa période de stockage. Eviter de retirer les circuits de cette mousse synthétique expansée et de les poser sur de la matière plastique ou un autre matériau susceptible de se charger d'électricité statique ou de les placer dans de la mousse en styrol.
2. De hautes tensions risquent d'être appliquées aux circuits au cours d'opérations de soudage parce que des fuites de courant proviennent du fer à souder: il est donc impératif de mettre l'extrémité du fer à souder à la terre ou de se servir d'un fer à souder basse tension.
3. Le corps humain, les vêtements en fibres synthétiques ou les gants en nylon peuvent se charger de plusieurs centaines de volts d'électricité statique à la suite d'une friction, ce qui oblige le dépanneur à se mettre à la terre.
4. Les appareils de mesure tels que les oscilloscopes, voltmètres électroniques, etc., doivent être mis à la terre pendant la durée du dépannage.

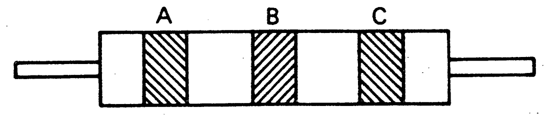
COMMENT INTERPRÉTER LA CAPACITÉ ET L'INDUCTANCE DES CONDENSATEURS À FORM DE RÉSISTANCE ET DES BOBINAGES

CONDENSATEUR



Capacité: (10A + B) × C [PF]
Tolérance: D
Tension nominale: Teinte du boîtier:
Rose: 25V
Vert: 50V
Caractéristiques: E

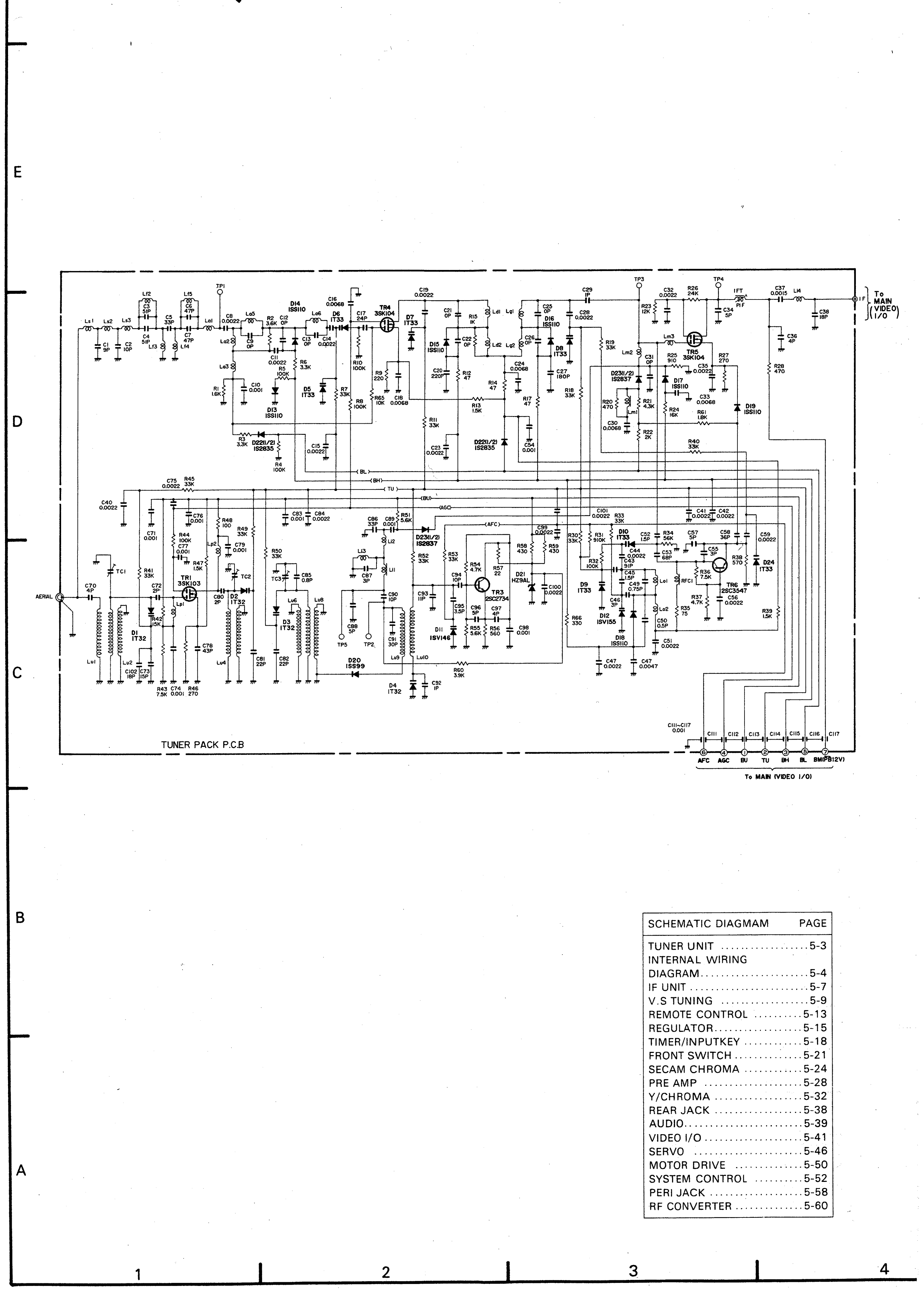
BOBINAGE



Inductance: (10A + B) × C [µH]

Teinte	A, B	C	D	E
Noir	0	10^0	± 20%	Compensation de température
Brun	1	10^1		
Rouge	2	10^2		
Orange	3	10^3		
Jaune	4	10^4		
Vert	5	10^5		
Bleu	6			
Violet	7			
Gris	8		± 30%	Type à haute constante diélectrique
Blanc	9			Compensation de témpérature
Or		10^{-1}	± 5%	
Argent		10^{-2}	± 10%	Type à haute constante diélectrique

TUNER UNIT (ETAGE SYNTONISEUR)



SCHEMATIC DIAGMAM	PAGE
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IF UNIT	5-7
V.S TUNING	5-9
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SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
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VIDEO I/O	5-41
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MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
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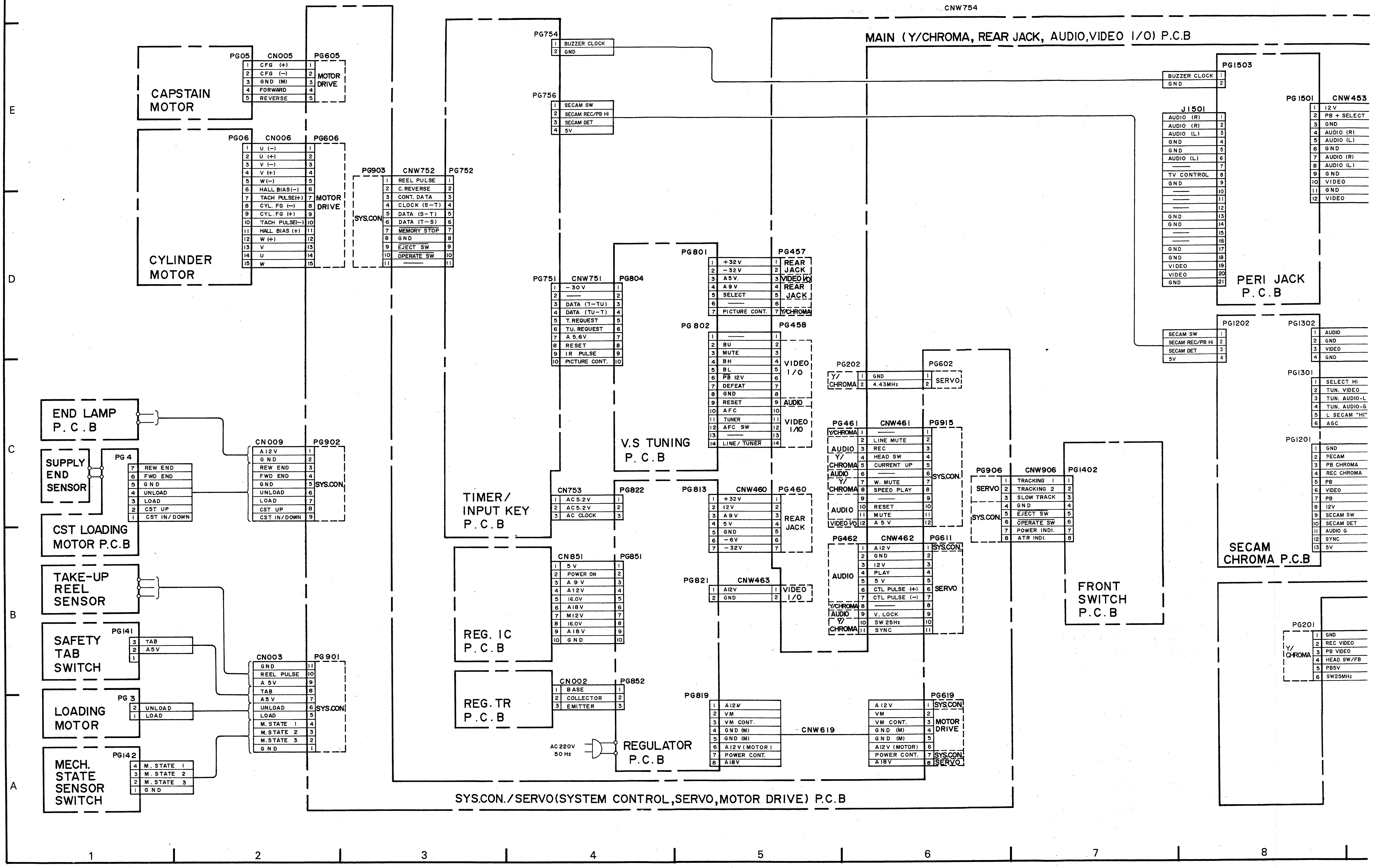
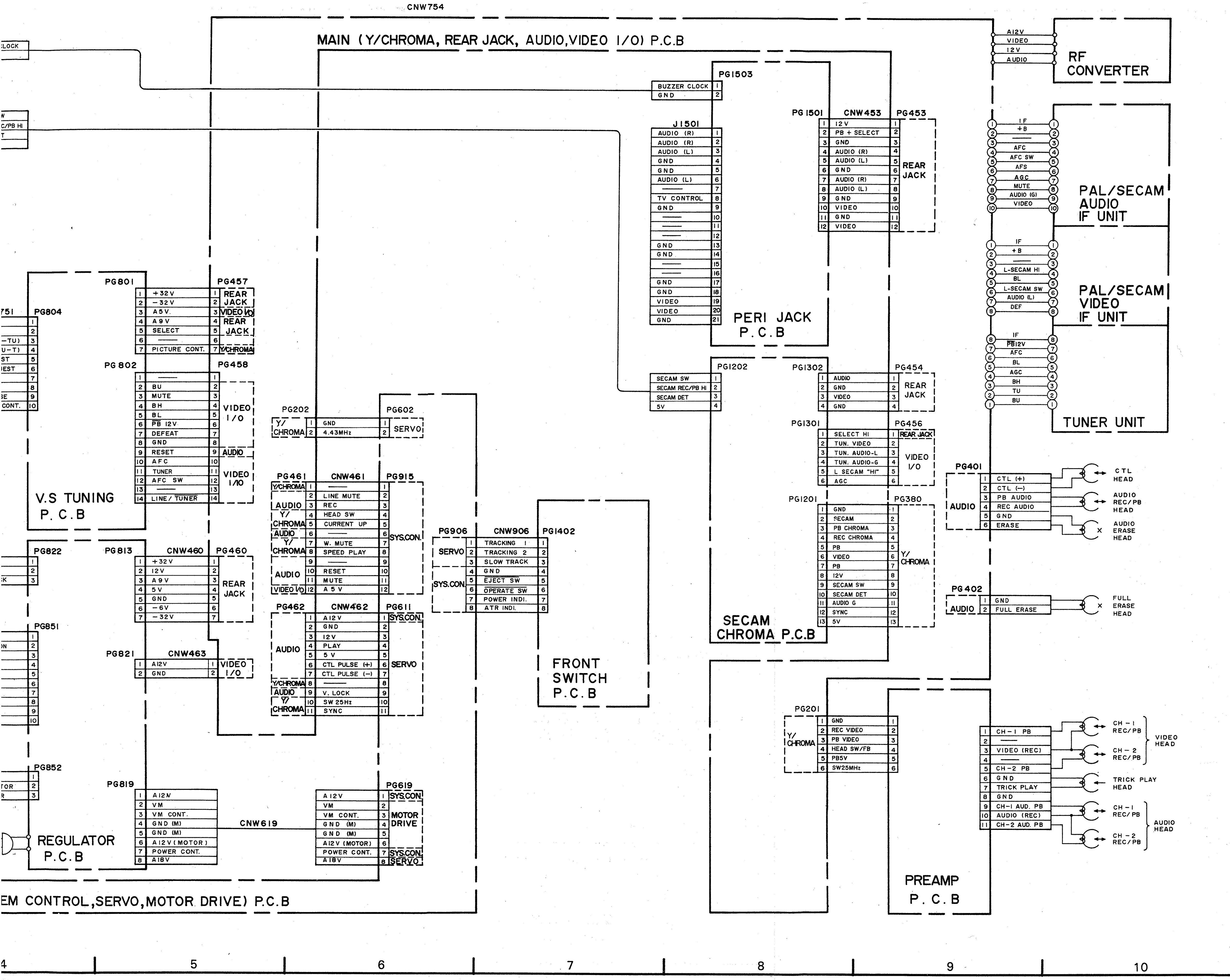
INTERNAL WIRING DIAGRAM (SCHÉMA DE CÂBLAGE INTERNE)


CAPSTAIN MOTOR
PG05 CN005 PG605
1 CFG (+)
2 CFG (−)
3 GND (M)
4 FORWARD
5 REVERSE
MOTOR DRIVE
CYLINDER MOTOR
PG06 CN006 PG606
1 U (−)
2 U (+)
3 V (−)
4 V (+)
5 W (−)
6 HALL BIAS (−)
7 TACH PULSE (+)
8 CYL. FG (−)
9 CYL. FG (+)
10 TACH PULSE (−)
11 HALL BIAS (+)
12 W (+)
13 V
14 U
15 W
MOTOR DRIVE
PG903 CNW752 PG752
SYS.CON.
1 REEL PULSE
2 C.REVERSE
3 CONT. DATA
4 CLOCK (S−T)
5 DATA (S−T)
6 DATA (T−S)
7 MEMORY STOP
8 GND
9 EJECT SW
10 OPERATE SW
11 ———
END LAMP P.C.B
SUPPLY END SENSOR
PG4
7 REW END
6 FWD END
5 GND
4 UNLOAD
3 LOAD
2 CST UP
1 CST IN/DOWN
CST LOADING MOTOR P.C.B
CN009 PG902
1 A12V
2 GND
3 REW END
4 FWD END
5 GND
6 UNLOAD
7 LOAD
8 CST UP
9 CST IN/DOWN
SYS.CON.
TAKE-UP REEL SENSOR
SAFETY TAB SWITCH
PG141
3 TAB
2 A5V
1
LOADING MOTOR
PG3
2 UNLOAD
1 LOAD
MECH. STATE SENSOR SWITCH
PG142
4 M. STATE 1
3 M. STATE 2
2 M. STATE 3
1 GND
CN003 PG901
11 GND
10 REEL PULSE
9 A 5V
8 TAB
7 A5V
6 UNLOAD
5 LOAD
4 M. STATE 1
3 M. STATE 2
2 M. STATE 3
1 GND
SYS.CON.
PG754
1 BUZZER CLOCK
2 GND
PG756
1 SECAM SW
2 SECAM REC/PB HI
3 SECAM DET
4 5V
PG751 CNW751 PG804
1 −30V
2 ———
3 DATA (T−TU)
4 DATA (TU−T)
5 T.REQUEST
6 TU. REQUEST
7 A 5.6V
8 RESET
9 IR PULSE
10 PICTURE CONT.
TIMER/ INPUT KEY P.C.B
CN753 PG822
1 AC5.2V
2 AC5.2V
3 AC CLOCK
REG. IC P.C.B
CN851 PG851
1 5V
2 POWER ON
3 A9V
4 A12V
5 16.0V
6 A18V
7 M12V
8 16.0V
9 A18V
10 GND
REG. TR P.C.B
CN002 PG852
1 BASE
2 COLLECTOR
3 EMITTER
AC 220V 50 Hz
REGULATOR P.C.B
V.S TUNING P.C.B
PG801 PG457
1 +32V
2 −32V
3 A5V
4 A9V
5 SELECT
6 ———
7 PICTURE CONT.
REAR JACK
VIDEO I/O
REAR JACK
Y/CHROMA
PG802 PG458
1 ———
2 BU
3 MUTE
4 BH
5 BL
6 PB 12V
7 DEFEAT
8 GND
9 RESET
10 AFC
11 TUNER
12 AFC SW
13 ———
14 LINE/TUNER
VIDEO I/O
AUDIO
VIDEO I/O
PG813 CNW460 PG460
1 +32V
2 12V
3 A9V
4 5V
5 GND
6 −6V
7 −32V
REAR JACK
PG821 CNW463
1 A12V
2 GND
VIDEO I/O
PG819
1 A12V
2 VM
3 VM CONT.
4 GND (M)
5 GND (M)
6 A12V (MOTOR)
7 POWER CONT.
8 A18V
CNW619
PG619
1 A12V
2 VM
3 VM CONT.
4 GND (M)
5 GND (M)
6 A12V (MOTOR)
7 POWER CONT.
8 A18V
SYS.CON.
MOTOR DRIVE
SYS.CON.
SERVO
PG202
Y/CHROMA
1 GND
2 4.43MHz
PG602
SERVO
PG461 CNW461 PG915
Y/CHROMA
AUDIO
Y/CHROMA
AUDIO
Y/CHROMA
AUDIO
VIDEO I/O
1 ———
2 LINE MUTE
3 REC
4 HEAD SW
5 CURRENT UP
6 ———
7 W. MUTE
8 SPEED PLAY
9 ———
10 RESET
11 MUTE
12 A 5V
SYS.CON.
PG462 CNW462 PG611
AUDIO
Y/CHROMA
AUDIO
Y/CHROMA
1 A12V
2 GND
3 12V
4 PLAY
5 5V
6 CTL PULSE (+)
7 CTL PULSE (−)
8 ———
9 V. LOCK
10 SW 25Hz
11 SYNC
SYS.CON.
SERVO
PG906 CNW906 PG1402
SERVO
SYS.CON.
1 TRACKING 1
2 TRACKING 2
3 SLOW TRACK
4 GND
5 EJECT SW
6 OPERATE SW
7 POWER INDI.
8 ATR INDI.
FRONT SWITCH P.C.B
SYS.CON./SERVO (SYSTEM CONTROL, SERVO, MOTOR DRIVE) P.C.B
CNW754
MAIN (Y/CHROMA, REAR JACK, AUDIO, VIDEO I/O) P.C.B
PG1503
BUZZER CLOCK 1
GND 2
J1501
AUDIO (R) 1
AUDIO (R) 2
AUDIO (L) 3
GND 4
GND 5
AUDIO (L) 6
——— 7
TV CONTROL 8
GND 9
——— 10
——— 11
——— 12
GND 13
GND 14
——— 15
——— 16
GND 17
GND 18
VIDEO 19
VIDEO 20
GND 21
PERI JACK P.C.B
PG1501 CNW453
1 12V
2 PB + SELECT
3 GND
4 AUDIO (R)
5 AUDIO (L)
6 GND
7 AUDIO (R)
8 AUDIO (L)
9 GND
10 VIDEO
11 GND
12 VIDEO
PG1202
SECAM SW 1
SECAM REC/PB HI 2
SECAM DET 3
5V 4
PG1302
1 AUDIO
2 GND
3 VIDEO
4 GND
PG1301
1 SELECT HI
2 TUN. VIDEO
3 TUN. AUDIO-L
4 TUN. AUDIO-G
5 L SECAM "HI"
6 AGC
PG1201
1 GND
2 SECAM
3 PB CHROMA
4 REC CHROMA
5 PB
6 VIDEO
7 PB
8 12V
9 SECAM SW
10 SECAM DET
11 AUDIO G
12 SYNC
13 5V
SECAM CHROMA P.C.B
PG201
Y/CHROMA
1 GND
2 REC VIDEO
3 PB VIDEO
4 HEAD SW/FB
5 PB5V
6 SW25MHz
E
D
C
B
A
1
2
3
4
5
6
7
8


CNW754
MAIN (Y/CHROMA, REAR JACK, AUDIO,VIDEO I/O) P.C.B
RF CONVERTER
A12V
VIDEO
12V
AUDIO
PG1503
BUZZER CLOCK
GND
J1501
PERI JACK P.C.B
PG1501
CNW453
PG453
12V
PB + SELECT
GND
AUDIO (R)
AUDIO (L)
VIDEO
REAR JACK
TV CONTROL
PAL/SECAM AUDIO IF UNIT
IF
+B
AFC
AFC SW
AFS
AGC
MUTE
AUDIO (G)
PAL/SECAM VIDEO IF UNIT
L-SECAM HI
BL
L-SECAM SW
AUDIO (L)
DEF
TUNER UNIT
PB12V
BH
TU
BU
PG1202
SECAM SW
SECAM REC/PB HI
SECAM DET
5V
PG1302
PG454
PG1301
PG456
SELECT HI
TUN. VIDEO
TUN. AUDIO-L
TUN. AUDIO-G
L SECAM "HI"
AGC
VIDEO I/O
PG1201
PG380
SECAM
PB CHROMA
REC CHROMA
PB
12V
SECAM SW
SECAM DET
AUDIO G
SYNC
Y/CHROMA
SECAM CHROMA P.C.B
PG401
AUDIO
CTL (+)
CTL (−)
PB AUDIO
REC AUDIO
ERASE
CTL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
PG402
FULL ERASE
FULL ERASE HEAD
PG201
REC VIDEO
PB VIDEO
HEAD SW/FB
PB5V
SW25MHz
CH-1 PB
VIDEO (REC)
CH-2 PB
TRICK PLAY
CH-1 AUD. PB
AUDIO (REC)
CH-2 AUD. PB
CH-1 REC/PB
CH-2 REC/PB
VIDEO HEAD
TRICK PLAY HEAD
AUDIO HEAD
PREAMP P.C.B
PG801
PG804
PG457
+32V
−32V
A5V
A9V
SELECT
PICTURE CONT.
VIDEO I/O
PG802
PG458
BU
MUTE
BH
BL
PB 12V
DEFEAT
RESET
AFC
TUNER
AFC SW
LINE/TUNER
V.S TUNING P.C.B
PG822
PG813
CNW460
PG460
−6V
PG851
PG821
CNW463
PG852
PG819
A12V
VM
VM CONT.
GND (M)
A12V (MOTOR)
POWER CONT.
A18V
REGULATOR P.C.B
CNW619
PG619
SYS.CON.
MOTOR DRIVE
SERVO
PG202
GND
4.43MHz
PG602
PG461
CNW461
PG915
LINE MUTE
REC
HEAD SW
CURRENT UP
W. MUTE
SPEED PLAY
RESET
A 5 V
PG462
CNW462
PG611
PLAY
CTL PULSE (+)
CTL PULSE (−)
V. LOCK
SW 25Hz
SYNC
PG906
CNW906
PG1402
TRACKING 1
TRACKING 2
SLOW TRACK
EJECT SW
OPERATE SW
POWER INDI.
ATR INDI.
FRONT SWITCH P.C.B
EM CONTROL,SERVO,MOTOR DRIVE) P.C.B
4
5
6
7
8
9
10
11

SCHEMATIC DIAGMAM PAGE

TUNER UNIT 5-3
INTERNAL WIRING
DIAGRAM......................5-4
IF UNIT 5-7
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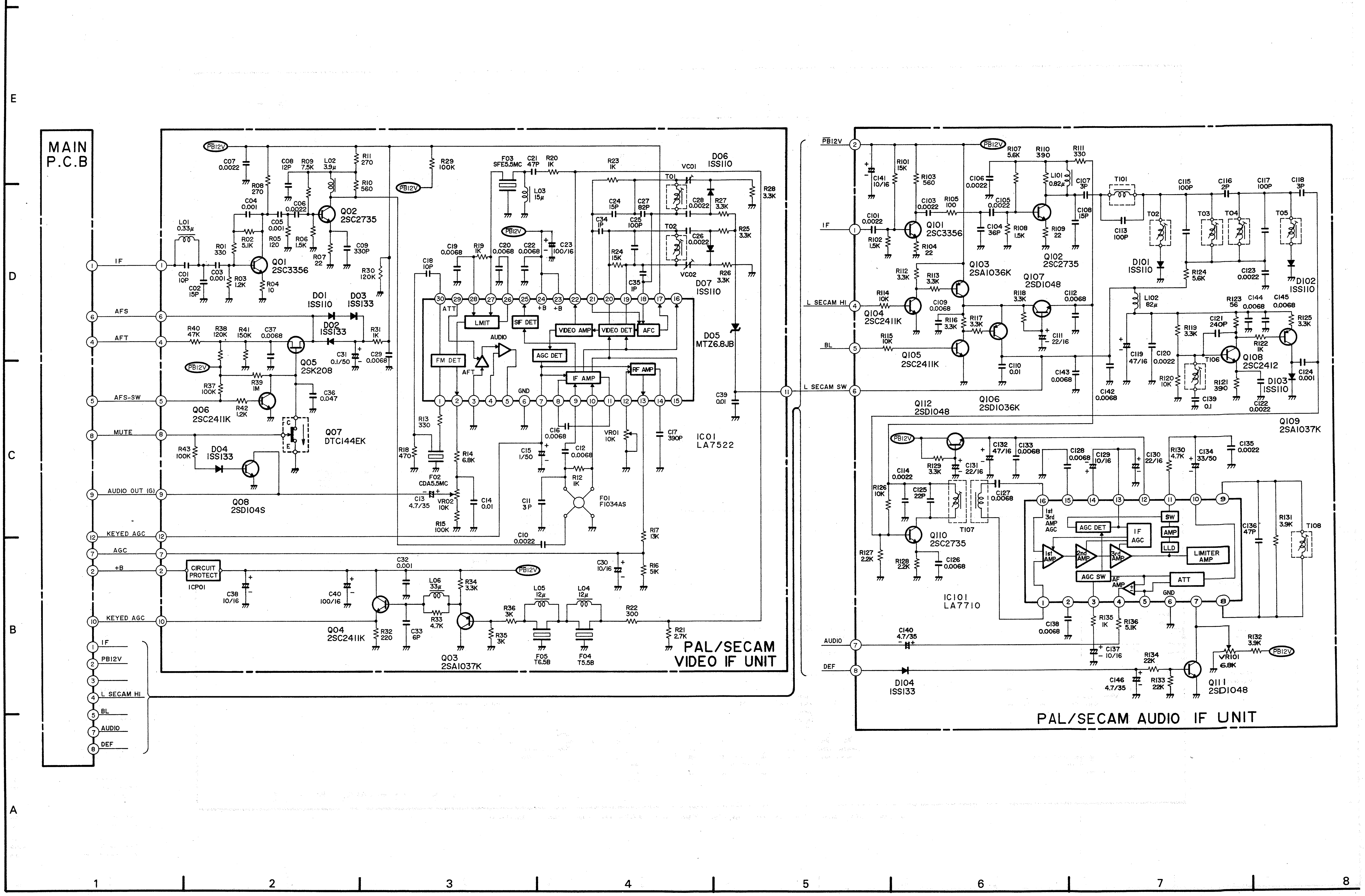
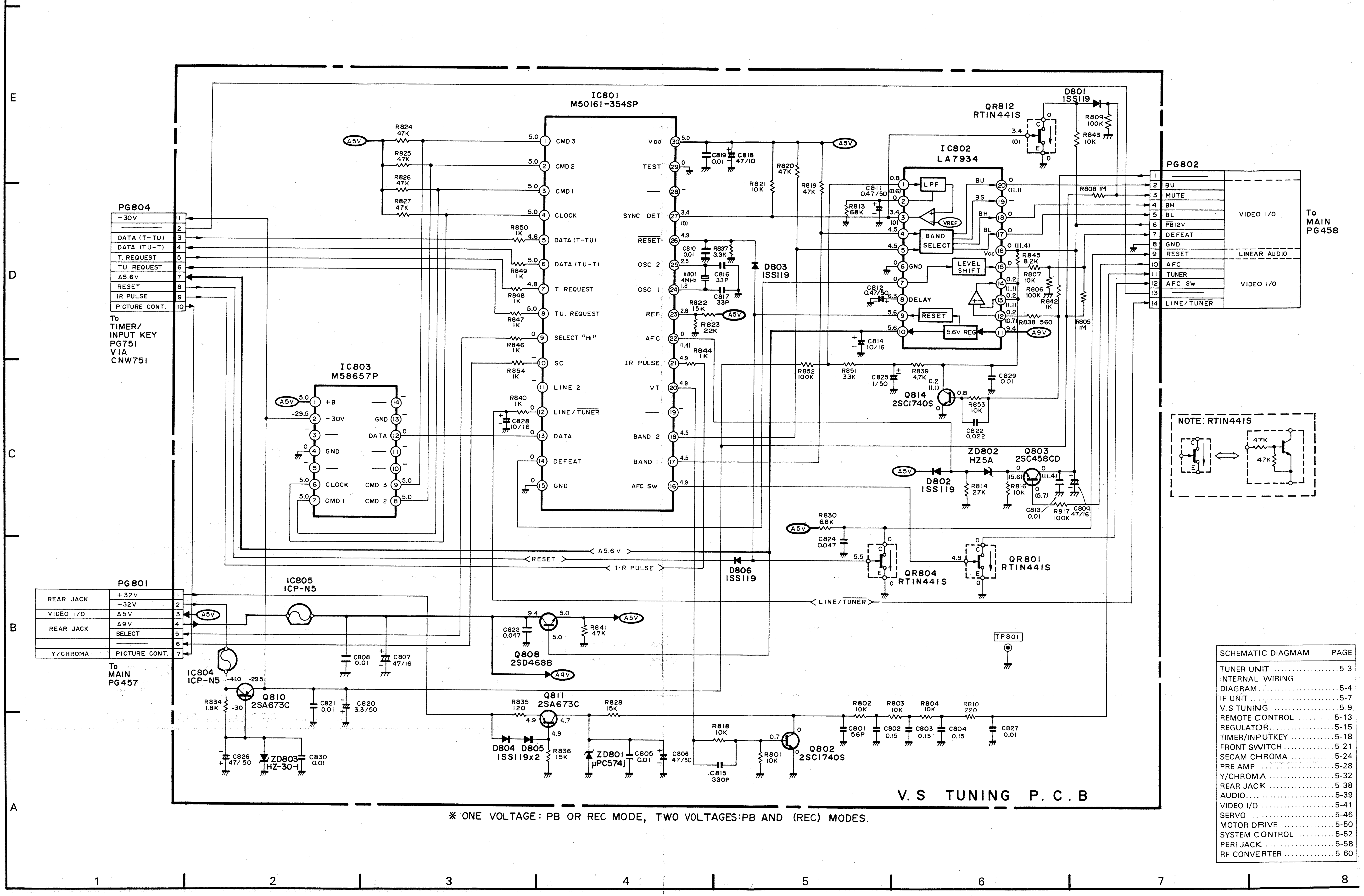
FRONT SWITCH 5-21
SECAM CHROMA 5-24
PRE AMP 5-28
Y/CHROMA 5-32
REAR JACK 5-38
AUDIO..........................5-39
VIDEO I/O 5-41
SERVO 5-46
MOTOR DRIVE 5-50
SYSTEM CONTROL 5-52
PERI JACK 5-58
RF CONVERTER 5-60

IF UNIT (ETAGE DE FRÉQUENCE INTERMÉDDIAIRE)


E
D
C
B
A
1
2
3
4
5
6
7
8
MAIN P.C.B
IF
AFS
AFT
AFS-SW
MUTE
AUDIO OUT (G)
KEYED AGC
AGC
+B
IF
PB12V
L SECAM HI
BL
AUDIO
DEF
PB12V
C07 0.0022
R08 270
C04 0.001
C08 12P
R09 7.5K
L02 3.9μ
R11 270
R10 560
C06 0.0022
Q02 2SC2735
C05 0.001
R02 5.1K
R05 120
R06 1.5K
R07 22
C09 330P
L01 0.33μ
R01 330
Q01 2SC3356
C01 10P
C02 15P
C03 0.001
R03 1.2K
R04 10
R29 100K
R30 120K
D01 1SS110
D03 1SS133
D02 1SS133
R40 47K
R38 120K
R41 150K
C37 0.0068
R31 1K
C31 0.1/50
C29 0.0068
Q05 2SK208
R39 1M
R37 100K
R42 1.2K
C36 0.047
Q06 2SC2411K
Q07 DTC144EK
R43 100K
D04 1SS133
Q08 2SD104S
CIRCUIT PROTECT
ICP01
C38 10/16
C40 100/16
C32 0.001
L06 33μ
R34 3.3K
R33 4.7K
Q04 2SC2411K
R32 220
C33 6P
Q03 2SA1037K
R36 3K
R35 3K
L05 12μ
L04 12μ
F05 T6.5B
F04 T5.5B
R22 300
R21 2.7K
F03 SFE5.5MC
C21 47P
R20 1K
L03 15μ
C23 100/16
C19 0.0068
R19 1K
C20 0.0068
C22 0.0068
C18 10P
ATT
LMIT
SIF DET
AUDIO
FM DET
AFT
AGC DET
VIDEO AMP
VIDEO DET
AFC
IF AMP
RF AMP
GND
+B
R13 330
R18 470
F02 CDA5.5MC
R14 6.8K
C13 4.7/35
VR02 10K
R15 100K
C14 0.01
C16 0.0068
C15 1/50
C12 0.0068
R12 1K
C11 3P
F01 F1034AS
C10 0.0022
VR01 10K
C17 390P
IC01 LA7522
R17 13K
R16 5K
C30 10/16
R23 1K
D06 1SS110
VC01
T01
C28 0.0022
R27 3.3K
R28 3.3K
C24 15P
C27 82P
C25 100P
C34 1P
T02
C26 0.0022
R25 3.3K
R24 15K
C35 1P
VC02
R26 3.3K
D07 1SS110
D05 MTZ6.8JB
C39 0.01
PAL/SECAM VIDEO IF UNIT
PB12V
IF
L SECAM HI
BL
L SECAM SW
AUDIO
DEF
C141 10/16
R101 15K
R103 560
R107 5.6K
R110 390
R111 330
C106 0.0022
C103 0.0022
R105 100
C105 0.0022
L101 0.82μ
C107 3P
T101
C115 100P
C116 2P
C117 100P
C118 3P
C101 0.0022
R102 1.5K
Q101 2SC3356
R104 22
C104 36P
R108 1.5K
R109 22
C108 15P
Q102 2SC2735
C113 100P
T02
T03
T04
T05
D101 1SS110
R124 5.6K
C123 0.0022
D102 1SS110
R112 3.3K
R113 3.3K
Q103 2SA1036K
Q107 2SD1048
R118 3.3K
C112 0.0068
R114 10K
Q104 2SC2411K
C109 0.0068
R116 3.3K
R117 3.3K
C111 22/16
L102 82μ
R123 56
C144 0.0068
C145 0.0068
R125 3.3K
C121 240P
R119 3.3K
R122 1K
C119 47/16
C120 0.0022
Q108 2SC2412
R115 10K
Q105 2SC2411K
C110 0.01
C143 0.0068
C142 0.0068
R120 10K
T106
R121 390
C139 0.1
D103 1SS110
C122 0.0022
C124 0.001
Q112 2SD1048
Q106 2SD1036K
Q109 2SA1037K
PB12V
C132 47/16
C133 0.0068
C128 0.0068
C129 10/16
C130 22/16
R130 4.7K
C134 33/50
C135 0.0022
R129 3.3K
C131 22/16
C114 0.0022
C125 22P
C127 0.0068
T107
R126 10K
1st 3rd AMP AGC
AGC DET
IF AGC
SW
AMP
LLD
1st AMP
2nd AMP
3rd AMP
LIMITER AMP
AGC SW
AF AMP
ATT
GND
C136 47P
R131 3.9K
T108
Q110 2SC2735
R127 2.2K
R128 2.2K
C126 0.0068
IC101 LA7710
C138 0.0068
R135 1K
R136 5.1K
C137 10/16
R134 22K
R132 3.9K
VR101 6.8K
C140 4.7/35
D104 1SS133
C146 4.7/35
R133 22K
Q111 2SD1048
PAL/SECAM AUDIO IF UNIT

V.S TUNING (ACCORD V.S.)


E
D
C
B
A
1
2
3
4
5
6
7
8
IC801
M50161-354SP
CMD 3
CMD 2
CMD 1
CLOCK
DATA (T-TU)
DATA (TU-T)
T. REQUEST
TU. REQUEST
SELECT "HI"
SC
LINE 2
LINE / TUNER
DATA
DEFEAT
GND
VDD
TEST
SYNC DET
RESET
OSC 2
OSC 1
REF
AFC
IR PULSE
VT
BAND 2
BAND 1
AFC SW
IC802
LA7934
LPF
VREF
BAND SELECT
LEVEL SHIFT
RESET
5.6V REG
DELAY
GND
IC803
M58657P
+B
-30V
GND
DATA
CLOCK
CMD 3
CMD 1
CMD 2
IC805
ICP-N5
IC804
ICP-N5
PG804
-30V
DATA (T-TU)
DATA (TU-T)
T. REQUEST
TU. REQUEST
A5.6V
RESET
IR PULSE
PICTURE CONT.
To
TIMER/
INPUT KEY
PG751
VIA
CNW751
PG801
REAR JACK
VIDEO I/O
REAR JACK
Y/CHROMA
+32V
-32V
A5V
A9V
SELECT
PICTURE CONT.
To
MAIN
PG457
PG802
BU
MUTE
BH
BL
PB12V
DEFEAT
GND
RESET
AFC
TUNER
AFC SW
LINE/TUNER
VIDEO I/O
LINEAR AUDIO
VIDEO I/O
To
MAIN
PG458
QR812
RTIN441S
D801
ISS119
D803
ISS119
D806
ISS119
D802
ISS119
ZD802
HZ5A
Q803
2SC458CD
Q814
2SC1740S
QR804
RTIN441S
QR801
RTIN441S
Q808
2SD468B
Q810
2SA673C
Q811
2SA673C
Q802
2SC1740S
D804 D805
ISS119x2
ZD801
µPC574J
ZD803
HZ-30-1
X801
4MHz
TP801
A5V
A9V
A5.6 V
RESET
I·R PULSE
LINE/TUNER
NOTE: RTIN441S
47K
47K
V. S TUNING P. C. B

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES:PB AND (REC) MODES.

SCHEMATIC DIAGMAM PAGE
TUNER UNIT 5-3
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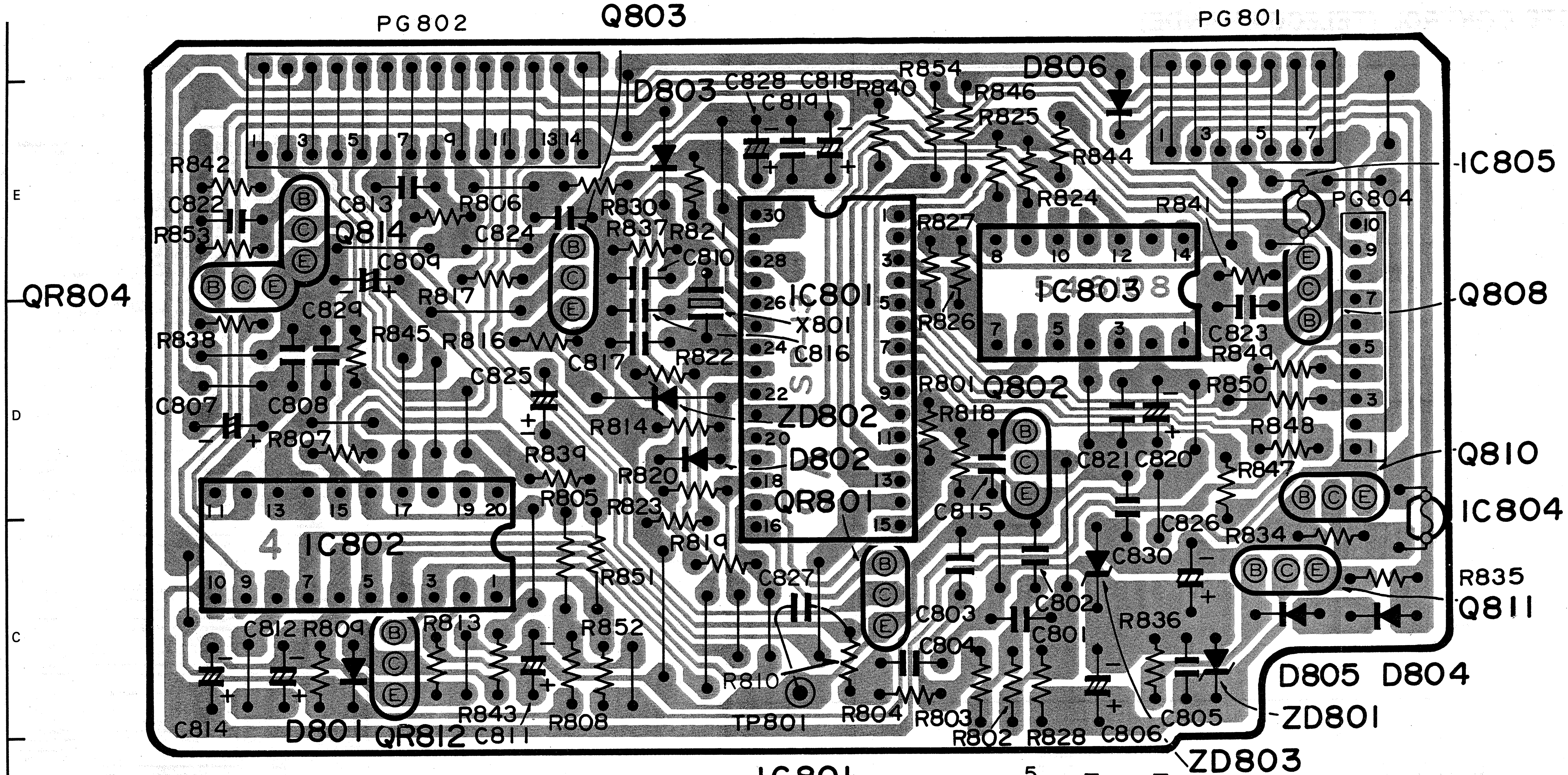
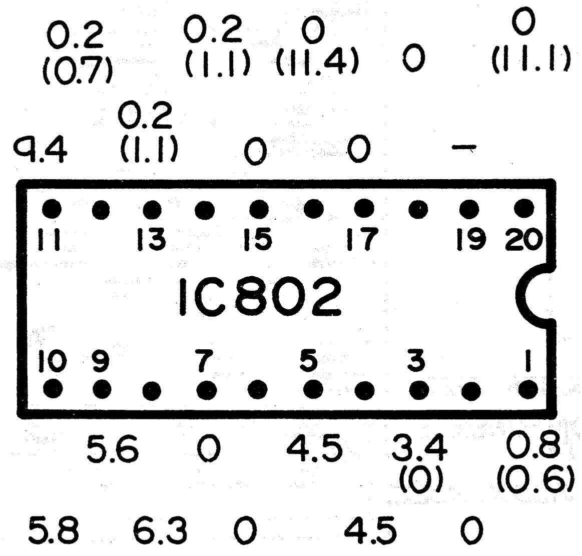
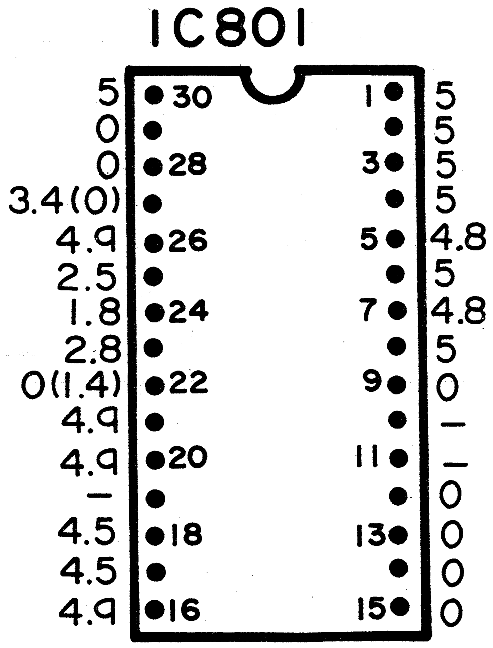
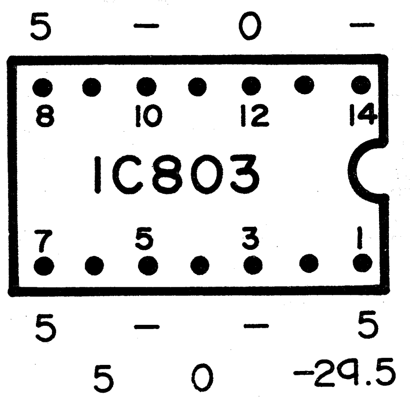
FRONT SWITCH....................5-21
SECAM CHROMA 5-24
PRE AMP 5-28
Y/CHROMA....................5-32
REAR JACK 5-38
AUDIO....................5-39
VIDEO I/O 5-41
SERVO 5-46
MOTOR DRIVE 5-50
SYSTEM CONTROL 5-52
PERI JACK 5-58
RF CONVERTER....................5-60


PG802
Q803
PG801
D803
C828
C818
C819
R854
R840
R846
D806
R825
R844
IC805
R842
C822
R853
C813
R806
C824
Q814
R830
R837
R821
C809
C810
R817
C829
R845
R816
R838
C817
R822
X801
C816
IC801
R827
R826
IC803
R824
R841
PG804
Q808
C823
R849
R850
R848
R801
Q802
R818
C825
C807
C808
R807
R814
ZD802
D802
R839
R820
R805
R823
QR801
QR804
IC802
R851
R819
C827
C821
C820
C815
R847
Q810
IC804
C826
R834
C830
R835
Q811
C802
C803
C801
C804
R836
C812
R809
R813
R852
C814
D801
QR812
C811
R843
R808
R810
TP801
R804
R803
R802
R828
C806
C805
D805
D804
ZD801
ZD803

V.S TUNING P.C.B

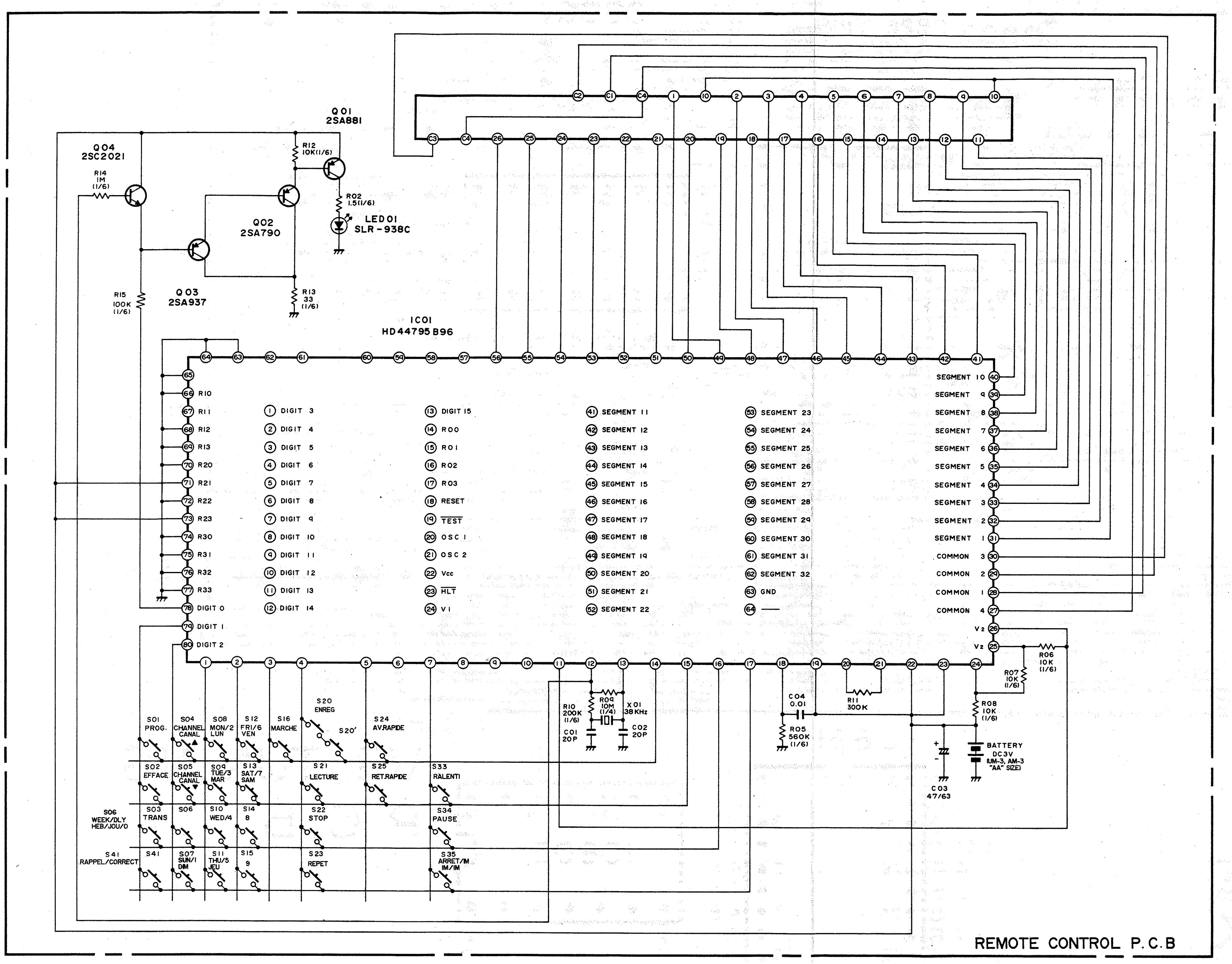

0.2
(0.7)
0.2
(1.1)
0
(11.4)
0
0
(11.1)
9.4
0.2
(1.1)
0
0
–
IC802
5.6
0
4.5
3.4
(0)
0.8
(0.6)
5.8
6.3
0
4.5
0

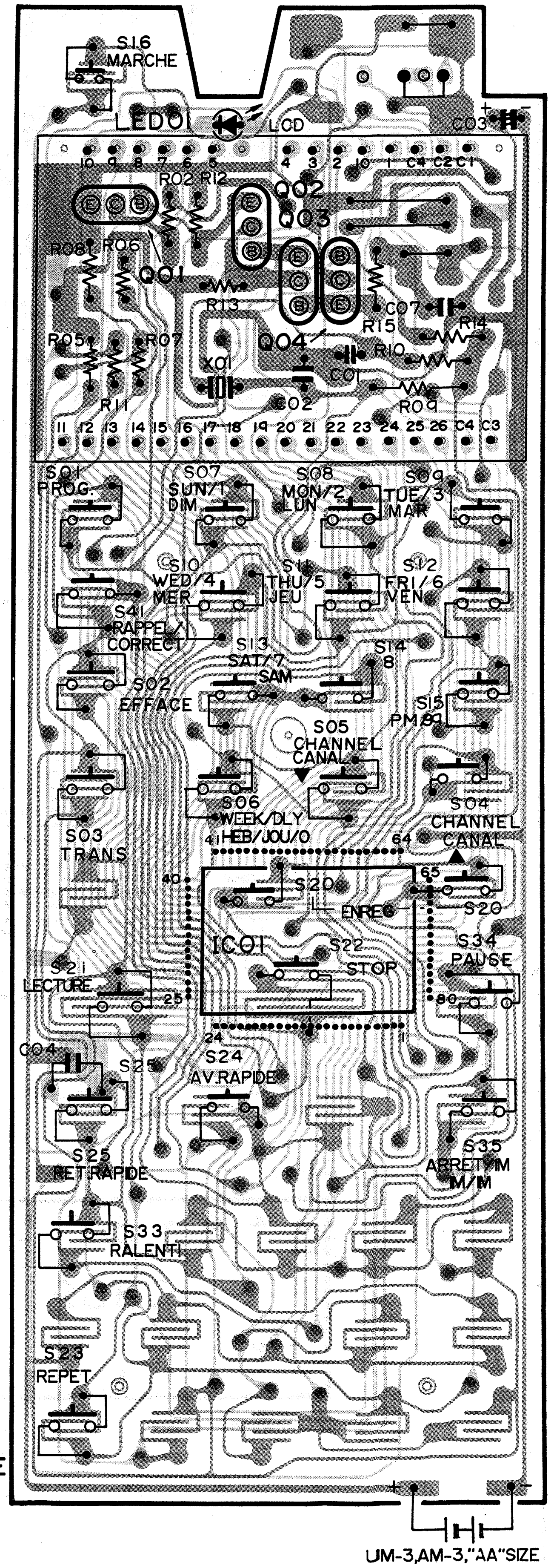

IC801
5
0
0
3.4(0)
4.9
2.5
1.8
2.8
0(1.4)
4.9
4.9
–
4.5
4.5
4.9
5
5
5
5
4.8
5
4.8
5
0
–
–
0
0
0
0


5
–
–
5
–
0
–
IC803
5
–
–
5
5
0
–29.5

※ ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND (REC) MODE.

REMOTE CONTROL (TÉLÉCOMMANDE)


Q01
2SA881
Q04
2SC2021
R14
1M
(1/6)
R12
10K(1/6)
R02
1.5(1/6)
LED01
SLR-938C
Q02
2SA790
Q03
2SA937
R15
100K
(1/6)
R13
33
(1/6)
IC01
HD44795B96
R10
R11
R12
R13
R20
R21
R22
R23
R30
R31
R32
R33
DIGIT 0
DIGIT 1
DIGIT 2
① DIGIT 3
② DIGIT 4
③ DIGIT 5
④ DIGIT 6
⑤ DIGIT 7
⑥ DIGIT 8
⑦ DIGIT 9
⑧ DIGIT 10
⑨ DIGIT 11
⑩ DIGIT 12
⑪ DIGIT 13
⑫ DIGIT 14
⑬ DIGIT 15
⑭ R00
⑮ R01
⑯ R02
⑰ R03
⑱ RESET
⑲ TEST
⑳ OSC 1
㉑ OSC 2
㉒ Vcc
㉓ HLT
㉔ V1
㊶ SEGMENT 11
㊷ SEGMENT 12
㊸ SEGMENT 13
㊹ SEGMENT 14
㊺ SEGMENT 15
㊻ SEGMENT 16
㊼ SEGMENT 17
㊽ SEGMENT 18
㊾ SEGMENT 19
㊿ SEGMENT 20
(51) SEGMENT 21
(52) SEGMENT 22
(53) SEGMENT 23
(54) SEGMENT 24
(55) SEGMENT 25
(56) SEGMENT 26
(57) SEGMENT 27
(58) SEGMENT 28
(59) SEGMENT 29
(60) SEGMENT 30
(61) SEGMENT 31
(62) SEGMENT 32
(63) GND
(64) —
SEGMENT 10
SEGMENT 9
SEGMENT 8
SEGMENT 7
SEGMENT 6
SEGMENT 5
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
COMMON 3
COMMON 2
COMMON 1
COMMON 4
Vz
Vz
R10
200K
(1/6)
R09
10M
(1/4)
X01
38KHz
C01
20P
C02
20P
C04
0.01
R05
560K
(1/6)
R11
300K
R06
10K
(1/6)
R07
10K
(1/6)
R08
10K
(1/6)
BATTERY
DC3V
(UM-3, AM-3
"AA" SIZE)
C03
47/63
S01
PROG.
S04
CHANNEL
CANAL
S08
MON/2
LUN
S12
FRI/6
VEN
S16
MARCHE
S20
ENREG
S20'
S24
AV.RAPIDE
S02
EFFACE
S05
CHANNEL
CANAL
S09
TUE/3
MAR
S13
SAT/7
SAM
S21
LECTURE
S25
RET.RAPIDE
S33
RALENTI
S06
WEEK/DLY
HEB/JOU/O
S03
TRANS
S06
S10
WED/4
S14
8
S22
STOP
S34
PAUSE
S41
RAPPEL/CORRECT
S41
S07
SUN/1
DIM
S11
THU/5
JEU
S15
9
S23
REPET
S35
ARRET/M
IM/IM
REMOTE CONTROL P.C.B

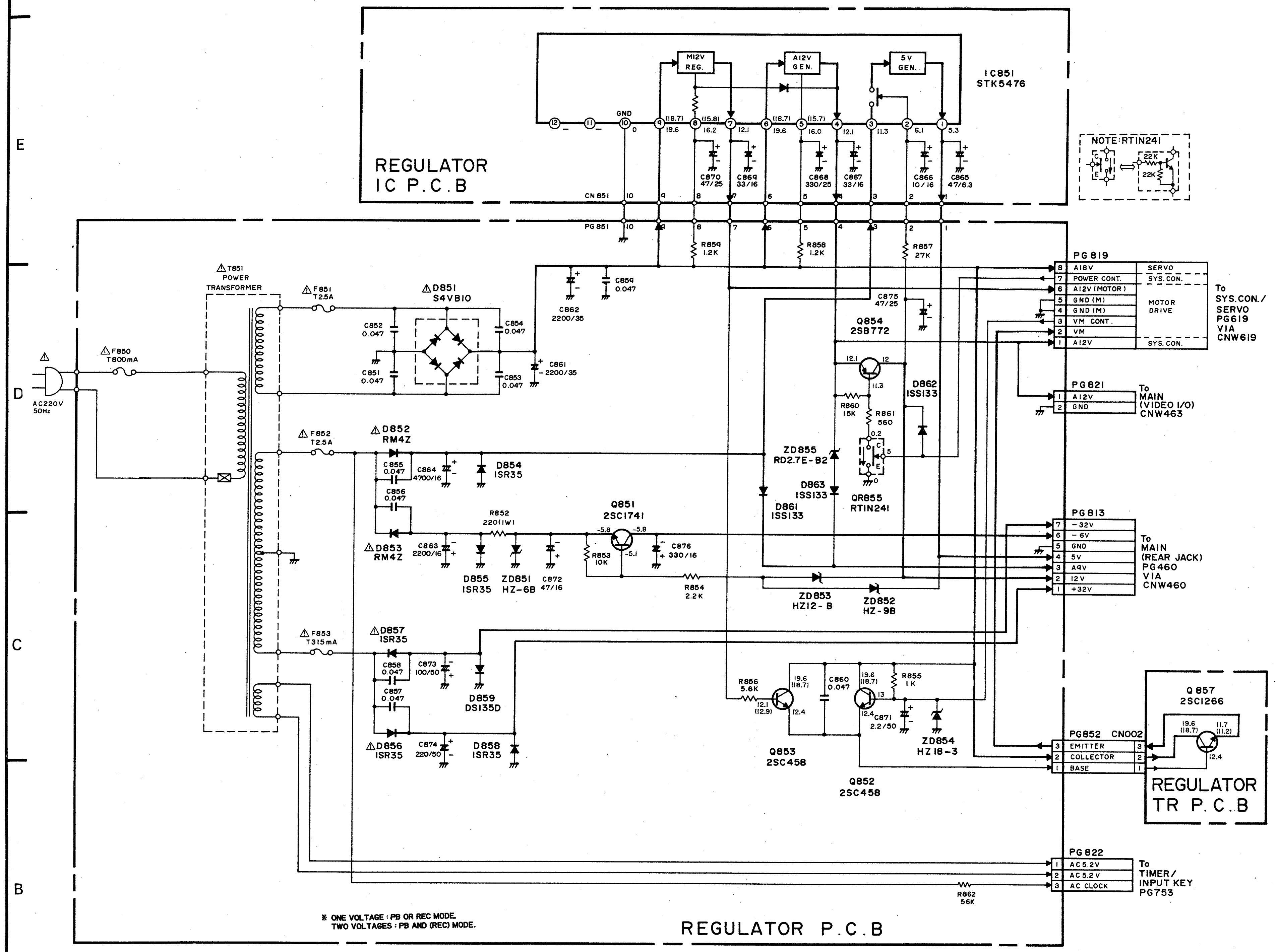

S16
MARCHE
LED01
LCD
C03
R02 R12
Q02
Q03
R08
R06
Q01
R13
C07
R15
R14
R05
R07
Q04
R10
X01
C01
R11
C02
R09
S01
PROG
S07
SUN/1
DIM
S08
MON/2
LUN
S09
TUE/3
MAR
S10
WED/4
MER
S11
THU/5
JEU
S12
FRI/6
VEN
S41
RAPPEL/
CORRECT
S13
SAT/7
SAM
S14
8
S02
EFFACE
S15
PM9
S05
CHANNEL
CANAL
S06
WEEK/DLY
HEB/JOU/O
S03
TRANS
S04
CHANNEL
CANAL
S20
ENREG
IC01
S22
STOP
S20
S34
PAUSE
S21
LECTURE
C04
S25
S24
AV.RAPIDE
S25
RET.RAPIDE
S35
ARRET/M
M/M
S33
RALENTI
S23
REPET
UM-3,AM-3,"AA"SIZE

▨ SOLDER SIDE

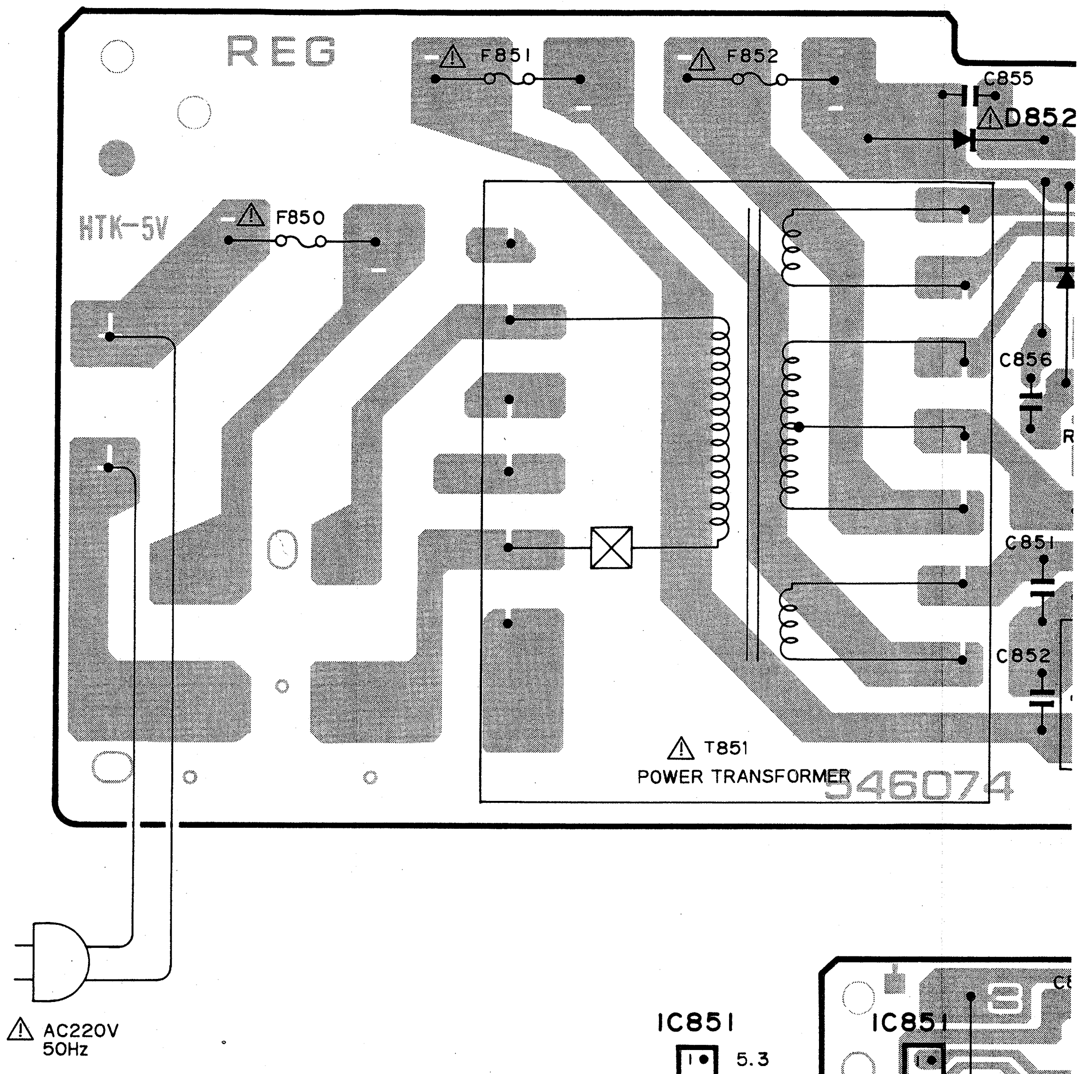
▨ COMPONENTS SIDE

● THROUGH HOLE

REGULATOR (RÉGULATEUR)

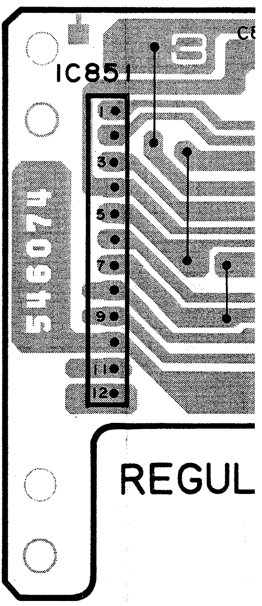

REGULATOR IC P.C.B
IC851 STK5476
M12V REG.
A12V GEN.
5V GEN.
GND
NOTE: RTIN241
22K
CN851
PG851
C870 47/25
C869 33/16
C868 330/25
C867 33/16
C866 10/16
C865 47/6.3
R859 1.2K
R858 1.2K
R857 27K
T851 POWER TRANSFORMER
F850 T800mA
AC220V 50Hz
F851 T2.5A
D851 S4VB10
C852 0.047
C851 0.047
C854 0.047
C853 0.047
C861 2200/35
C859 0.047
C862 2200/35
C875 47/25
Q854 2SB772
R860 15K
R861 560
D862 ISS133
ZD855 RD2.7E-B2
D863 ISS133
D861 ISS133
QR855 RTIN241
F852 T2.5A
D852 RM4Z
C855 0.047
C864 4700/16
C856 0.047
D854 ISR35
D853 RM4Z
C863 2200/16
R852 220(1W)
Q851 2SC1741
R853 10K
C876 330/16
D855 ISR35
ZD851 HZ-6B
C872 47/16
R854 2.2K
ZD853 HZ12-B
ZD852 HZ-9B
F853 T315mA
D857 ISR35
C858 0.047
C873 100/50
C857 0.047
D859 DS135D
D856 ISR35
C874 220/50
D858 ISR35
R856 5.6K
Q853 2SC458
C860 0.047
R855 1K
C871 2.2/50
ZD854 HZ18-3
Q852 2SC458
PG819
A18V
POWER CONT.
A12V (MOTOR)
GND (M)
GND (M)
VM CONT.
VM
A12V
SERVO
SYS.CON.
MOTOR DRIVE
To SYS.CON./SERVO PG619 VIA CNW619
PG821
A12V
GND
To MAIN (VIDEO I/O) CNW463
PG813
−32V
−6V
GND
5V
A9V
12V
+32V
To MAIN (REAR JACK) PG460 VIA CNW460
PG852 CN002
EMITTER
COLLECTOR
BASE
Q857 2SC1266
REGULATOR TR P.C.B
PG822
AC5.2V
AC5.2V
AC CLOCK
To TIMER/INPUT KEY PG753
R862 56K
REGULATOR P.C.B

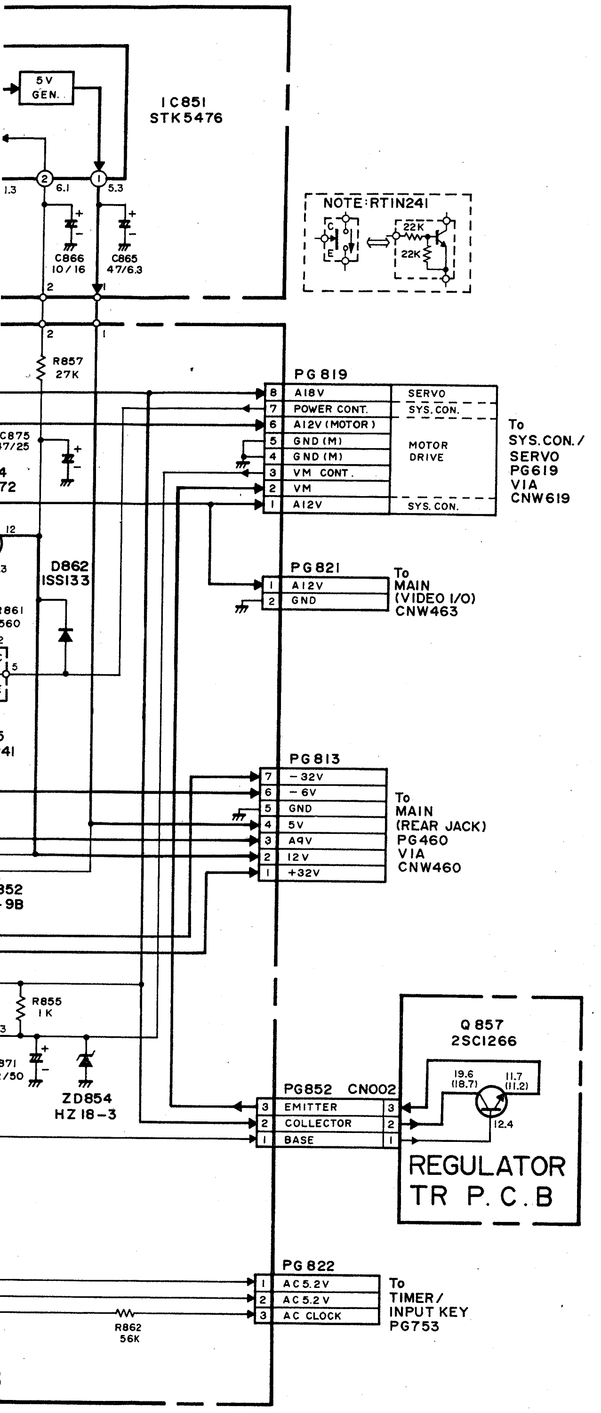
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.

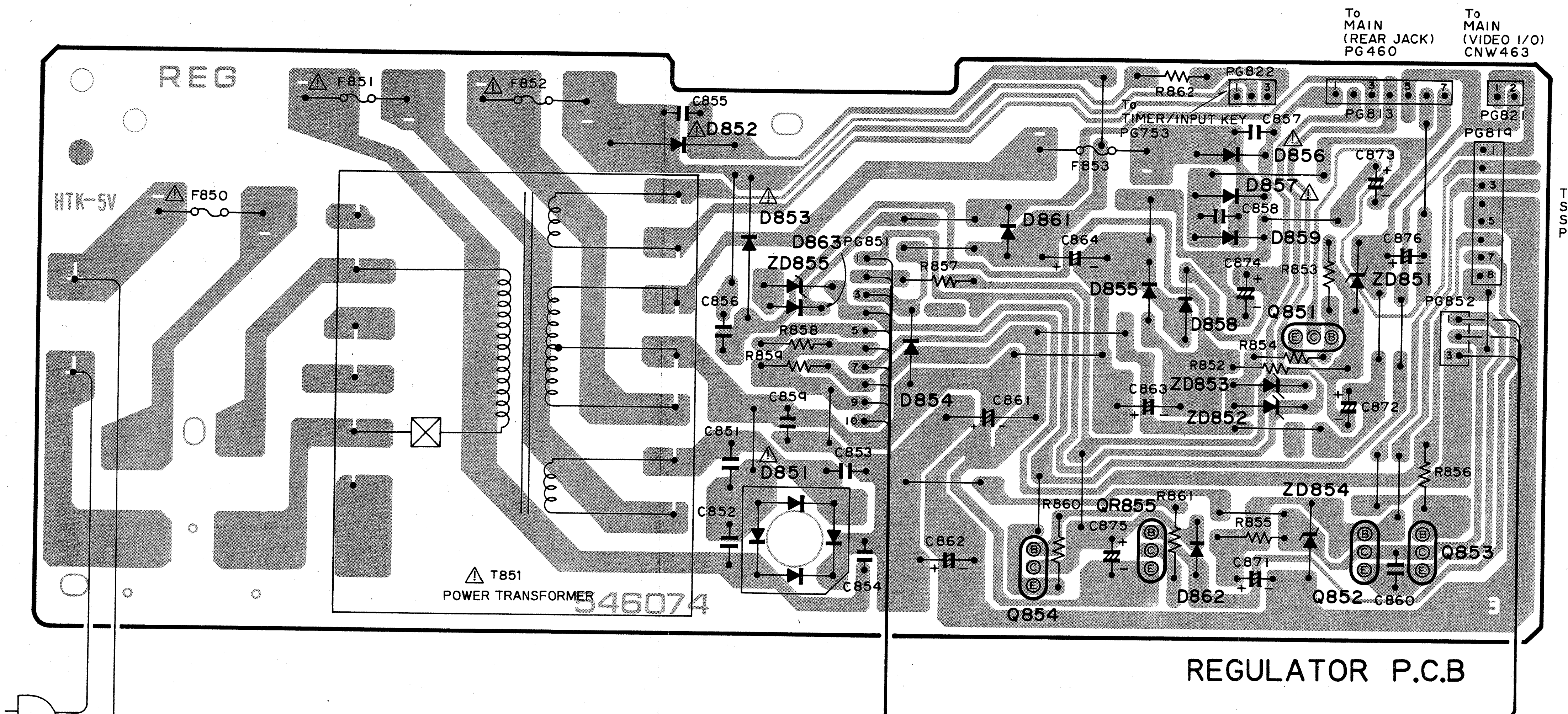

REG
F851
F852
C855
D852
HTK-5V
F850
C856
C851
C852
T851
POWER TRANSFORMER
546074
AC220V 50Hz

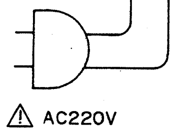
IC851

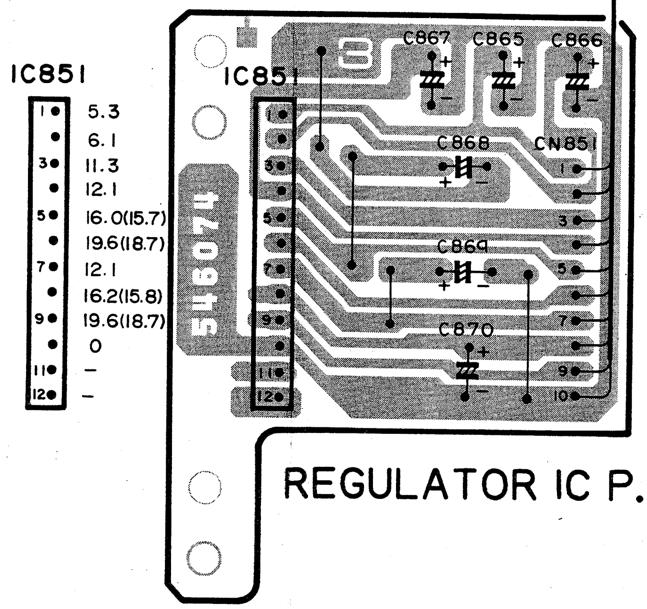
Pin	Voltage
1	5.3
2	6.1
3	11.3
4	12.1
5	16.0(15.7)
6	19.6(18.7)
7	12.1
8	16.2(15.8)
9	19.6(18.7)
10	0
11	–
12	–

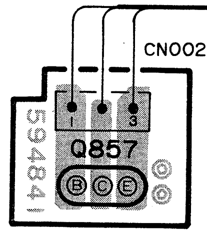

IC851
546074
REGUL


IC851
STK5476
5V GEN.
NOTE:RTIN241
22K
22K
C866
10/16
C865
47/6.3
R857
27K
D862
ISS133
PG819
A18V
POWER CONT.
A12V (MOTOR)
GND (M)
GND (M)
VM CONT.
VM
A12V
SERVO
SYS.CON.
MOTOR DRIVE
SYS.CON.
To SYS.CON./ SERVO PG619 VIA CNW619
PG821
A12V
GND
To MAIN (VIDEO I/O) CNW463
PG813
-32V
-6V
GND
5V
A9V
12V
+32V
To MAIN (REAR JACK) PG460 VIA CNW460
R855
1K
ZD854
HZ18-3
PG852
CN002
EMITTER
COLLECTOR
BASE
Q857
2SC1266
REGULATOR TR P.C.B
PG822
AC5.2V
AC5.2V
AC CLOCK
R862
56K
To TIMER/ INPUT KEY PG753


REG
HTK-5V
F850
F851
F852
F853
T851
POWER TRANSFORMER
546074
C855
D852
D853
D863
ZD855
PG851
C856
R857
R858
R859
C859
C851
D851
C853
C852
C854
D854
C861
C862
D861
C864
D855
D858
R853
ZD851
Q851
R854
R852
C863
ZD853
ZD852
C872
R856
ZD854
R860
QR855
R861
C875
R855
C871
D862
Q854
Q852
C860
Q853
D856
D857
D859
C857
C858
C873
C874
C876
R862
PG822
PG813
PG821
PG819
PG852
To TIMER/INPUT KEY PG753
To MAIN (REAR JACK) PG460
To MAIN (VIDEO I/O) CNW463
To SYS.CON./ SERVO PG619
REGULATOR P.C.B


AC220V
50Hz


IC851
5.3
6.1
11.3
12.1
16.0(15.7)
19.6(18.7)
12.1
16.2(15.8)
19.6(18.7)
0
-
-
C867
C865
C866
C868
C869
C870
CN851
546074
REGULATOR IC P.C.B


CN002
594841
Q857
REG. TR P.C.B

SCHEMATIC DIAGMAM	PAGE
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REGULATOR	5-15
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PRE AMP	5-28
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AUDIO	5-39
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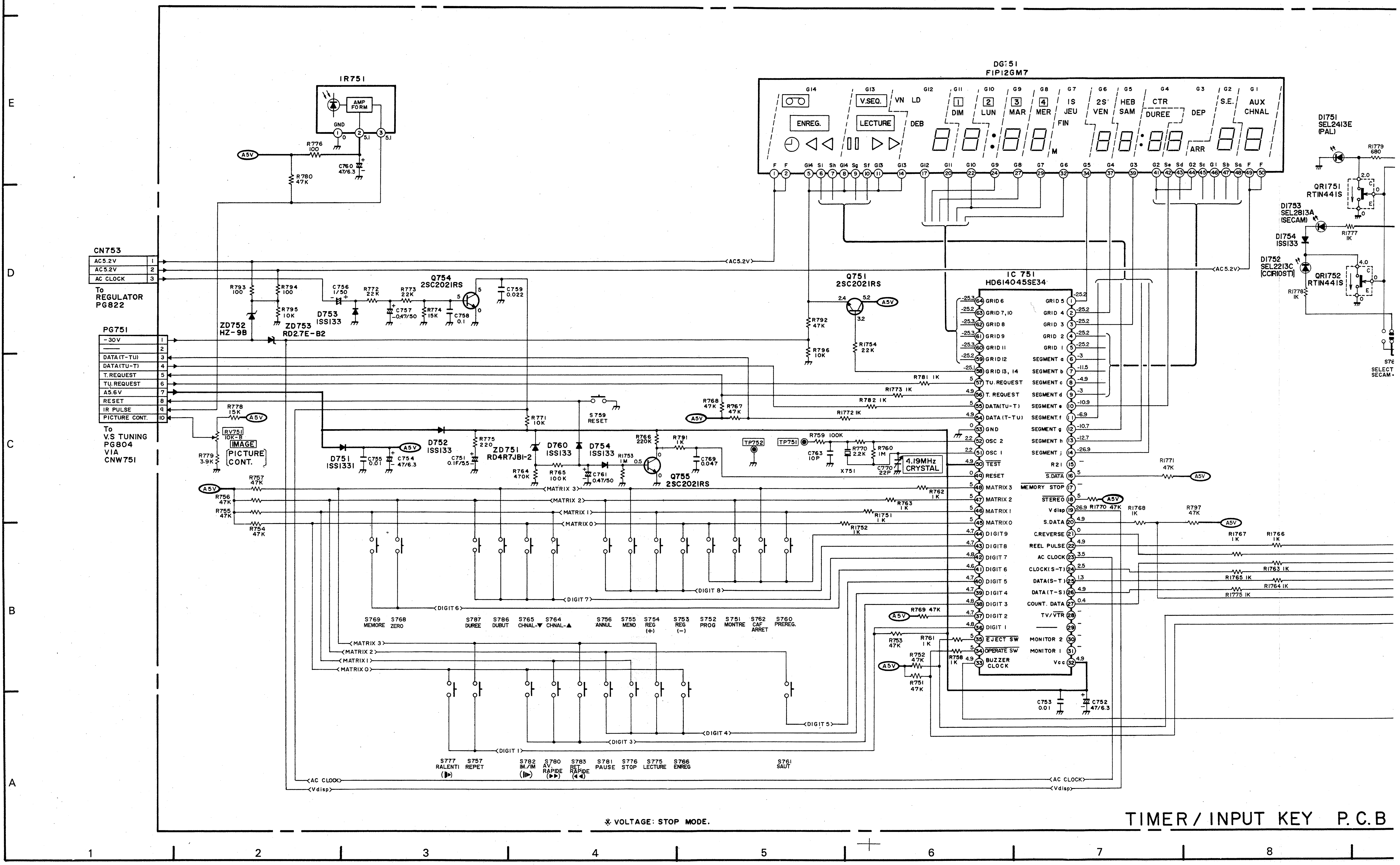
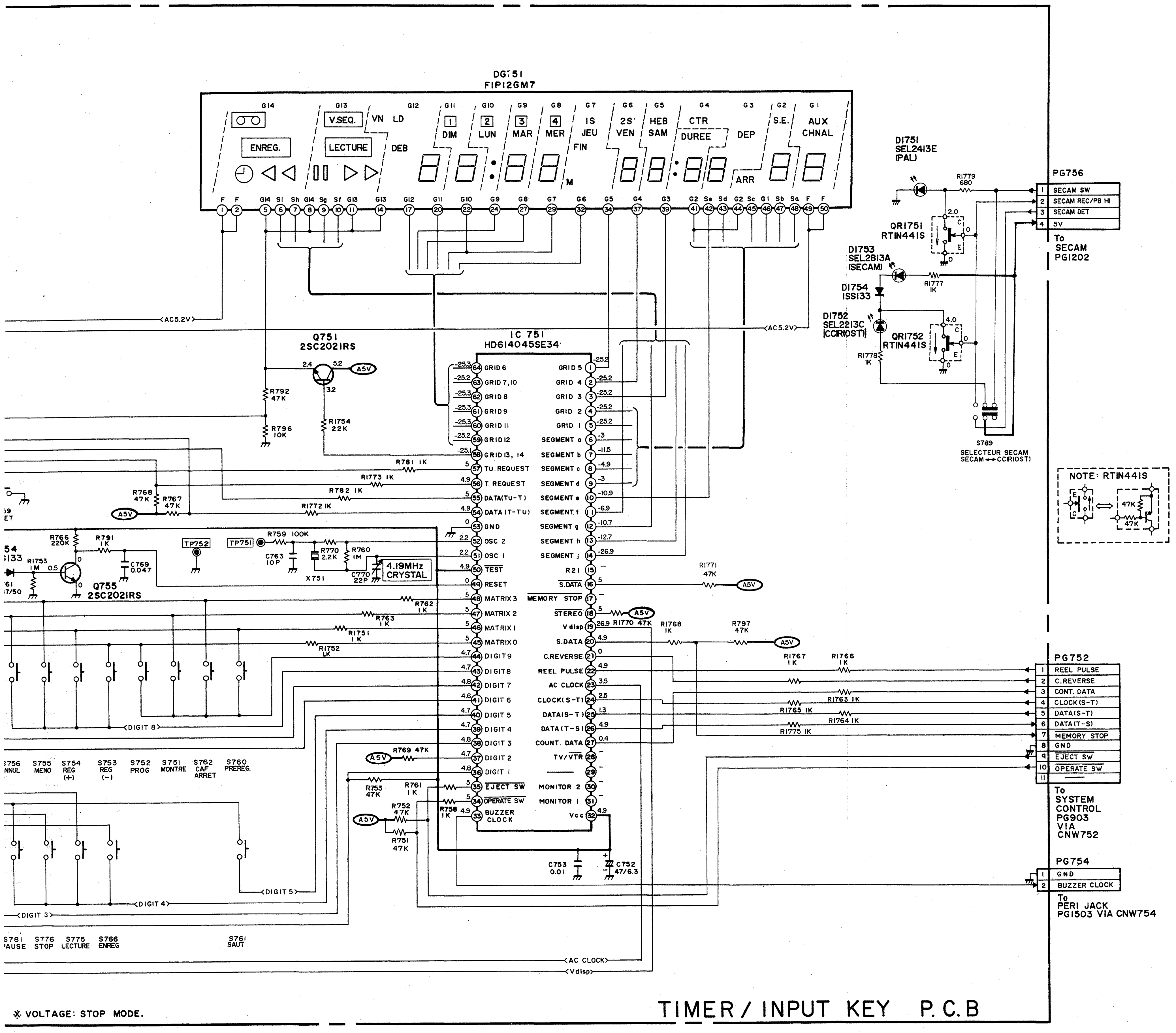
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

TIMER/INPUTKEY (PROGRAMMATEUR/TOUCHE DE PROGRAMMATION)

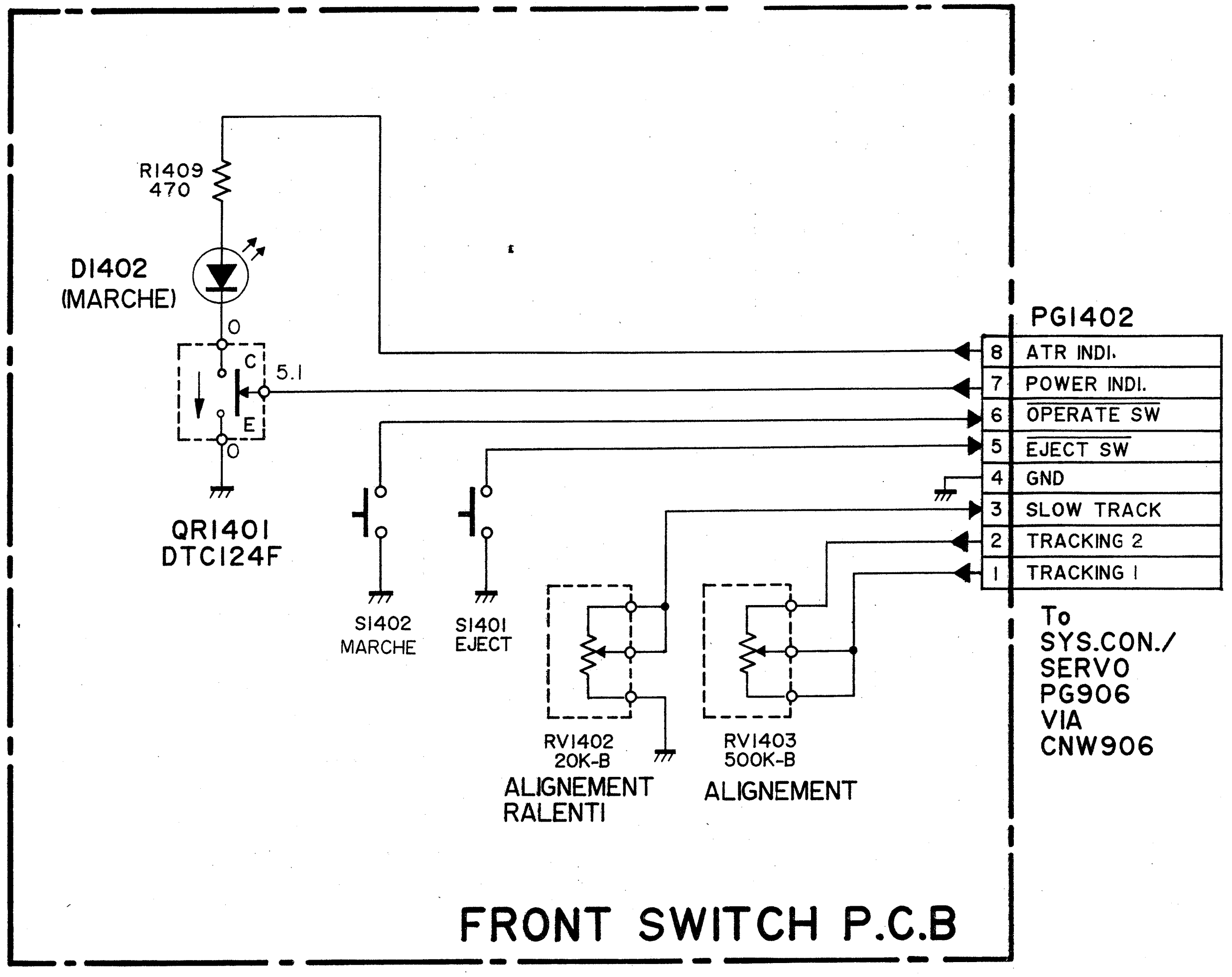

IR751
AMP FORM
R776 100
R780 47K
C760 47/6.3
A5V
DG751
FIP12GM7
ENREG.
V.SEQ.
LECTURE
VN LD
DEB
DIM
LUN
MAR
MER
JEU
FIN
VEN
SAM
HEB
CTR
DUREE
DEP
ARR
S.E.
AUX
CHNAL
D1751 SEL2413E (PAL)
R1779 680
QR1751 RTIN441S
D1753 SEL2813A (SECAM)
R1777 1K
D1754 1SS133
D1752 SEL2213C (CCIR)
QR1752 RTIN441S
R1778 1K
SELECT SECAM
CN753
AC5.2V
AC5.2V
AC CLOCK
To REGULATOR PG822
PG751
-30V
DATA(T-TU)
DATA(TU-T)
T.REQUEST
TU.REQUEST
A5.6V
RESET
IR PULSE
PICTURE CONT.
To V.S TUNING PG804 VIA CNW751
R778 15K
RV751 10K-B
IMAGE
PICTURE CONT.
R779 3.9K
R793 100
R794 100
R795 10K
ZD752 HZ-9B
ZD753 RD2.7E-B2
C756 1/50
D753 1SS133
R772 22K
R773 22K
C757 0.47/50
R774 15K
C758 0.1
Q754 2SC2021RS
C759 0.022
Q751 2SC2021RS
R792 47K
R796 10K
R1754 22K
IC751 HD614045SE34
GRID 6
GRID 7,10
GRID 8
GRID 9
GRID 11
GRID 12
GRID 13, 14
TU.REQUEST
T.REQUEST
DATA(TU-T)
DATA(T-TU)
GND
OSC 2
OSC 1
TEST
RESET
MATRIX 3
MATRIX 2
MATRIX 1
MATRIX 0
DIGIT 9
DIGIT 8
DIGIT 7
DIGIT 6
DIGIT 5
DIGIT 4
DIGIT 3
DIGIT 2
DIGIT 1
EJECT SW
OPERATE SW
BUZZER CLOCK
GRID 5
GRID 4
GRID 3
GRID 2
GRID 1
SEGMENT a
SEGMENT b
SEGMENT c
SEGMENT d
SEGMENT e
SEGMENT f
SEGMENT g
SEGMENT h
SEGMENT j
R21
S.DATA
MEMORY STOP
STEREO
Vdisp
S.DATA
C.REVERSE
REEL PULSE
AC CLOCK
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
COUNT. DATA
TV/VTR
MONITOR 2
MONITOR 1
Vcc
R781 1K
R1773 1K
R782 1K
R1772 1K
R768 47K
R767 47K
R771 10K
S759 RESET
R775 220
D751 1SS133
C755 0.01
C754 47/6.3
D752 1SS133
C751 0.1F/5.5
ZD751 RD4R7JB1-2
D760 1SS133
D754 1SS133
R764 470K
R765 100K
C761 0.47/50
R1753 1M
Q755 2SC2021RS
R766 220K
R791 1K
C769 0.047
TP752
TP751
R759 100K
R770 2.2K
R760 1M
C763 10P
X751
C770 22P
4.19MHz CRYSTAL
R1771 47K
R762 1K
R763 1K
R1751 1K
R1752 1K
R1770 47K
R1768 1K
R797 47K
R1767 1K
R1766 1K
R1763 1K
R1765 1K
R1764 1K
R1775 1K
R757 47K
R756 47K
R755 47K
R754 47K
MATRIX 3
MATRIX 2
MATRIX 1
MATRIX 0
DIGIT 6
DIGIT 7
DIGIT 8
S769 MEMORE
S768 ZERO
S787 DUREE
S786 DUBUT
S765 CHNAL-▼
S764 CHNAL-▲
S756 ANNUL
S755 MENO
S754 REG (+)
S753 REG (-)
S752 PROG
S751 MONTRE
S762 CAF ARRET
S760 PREREG.
R769 47K
R753 47K
R761 1K
R758 1K
R752 47K
R751 47K
C753 0.01
C752 47/6.3
DIGIT 5
DIGIT 4
DIGIT 3
DIGIT 1
S777 RALENTI
S757 REPET
S782 IM./IM
S780 AV. RAPIDE (▶▶)
S783 RET. RAPIDE (◀◀)
S781 PAUSE
S776 STOP
S775 LECTURE
S766 ENREG
S761 SAUT
AC CLOCK
Vdisp
※ VOLTAGE: STOP MODE.
TIMER / INPUT KEY P.C.B
E
D
C
B
A
1
2
3
4
5
6
7
8

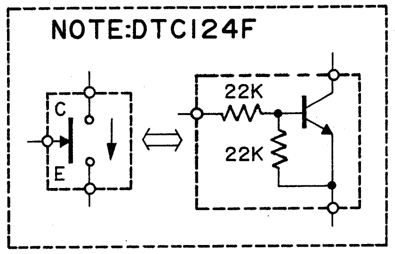

DG751
FIP12GM7
G14
G13
G12
G11
G10
G9
G8
G7
G6
G5
G4
G3
G2
G1
V.SEQ.
VN
LD
ENREG.
LECTURE
DEB
DIM
LUN
MAR
MER
IS
JEU
FIN
2S'
VEN
HEB
SAM
CTR
DUREE
DEP
S.E.
AUX
CHNAL
ARR
M
Q751
2SC2021RS
R792 47K
R796 10K
R1754 22K
IC 751
HD614045SE34
GRID 6
GRID 7, 10
GRID 8
GRID 9
GRID 11
GRID 12
GRID 13, 14
TU. REQUEST
T. REQUEST
DATA(TU-T)
DATA (T-TU)
GND
OSC 2
OSC 1
TEST
RESET
MATRIX 3
MATRIX 2
MATRIX 1
MATRIX 0
DIGIT 9
DIGIT 8
DIGIT 7
DIGIT 6
DIGIT 5
DIGIT 4
DIGIT 3
DIGIT 2
DIGIT 1
EJECT SW
OPERATE SW
BUZZER CLOCK
GRID 5
GRID 4
GRID 3
GRID 2
GRID 1
SEGMENT a
SEGMENT b
SEGMENT c
SEGMENT d
SEGMENT e
SEGMENT f
SEGMENT g
SEGMENT h
SEGMENT j
R21
S.DATA
MEMORY STOP
STEREO
V disp
S.DATA
C.REVERSE
REEL PULSE
AC CLOCK
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
COUNT. DATA
TV/VTR
MONITOR 2
MONITOR 1
Vcc
4.19MHz CRYSTAL
X751
TP752
TP751
R759 100K
Q755
2SC2021RS
C753 0.01
C752 47/6.3
D1751
SEL2413E
(PAL)
QR1751
RTN441S
D1753
SEL2813A
(SECAM)
D1754
1SS133
D1752
SEL2213C
(CCIR OST)
QR1752
RTN441S
S789
SELECTEUR SECAM
SECAM ↔ CCIR(OST)
NOTE: RTN441S
PG756
1 SECAM SW
2 SECAM REC/PB HI
3 SECAM DET
4 5V
To SECAM PG1202
PG752
1 REEL PULSE
2 C.REVERSE
3 CONT. DATA
4 CLOCK(S-T)
5 DATA(S-T)
6 DATA(T-S)
7 MEMORY STOP
8 GND
9 EJECT SW
10 OPERATE SW
11
To SYSTEM CONTROL PG903 VIA CNW752
PG754
1 GND
2 BUZZER CLOCK
To PERI JACK PG1503 VIA CNW754
AC5.2V
A5V
DIGIT 8
DIGIT 5
DIGIT 4
DIGIT 3
AC CLOCK
Vdisp
S756 ANNUL
S755 MEMO
S754 REG (+)
S753 REG (-)
S752 PROG
S751 MONTRE
S762 CAF ARRET
S760 PREREG.
S781 PAUSE
S776 STOP
S775 LECTURE
S766 ENREG
S761 SAUT
5
6
7
8
9
10
11

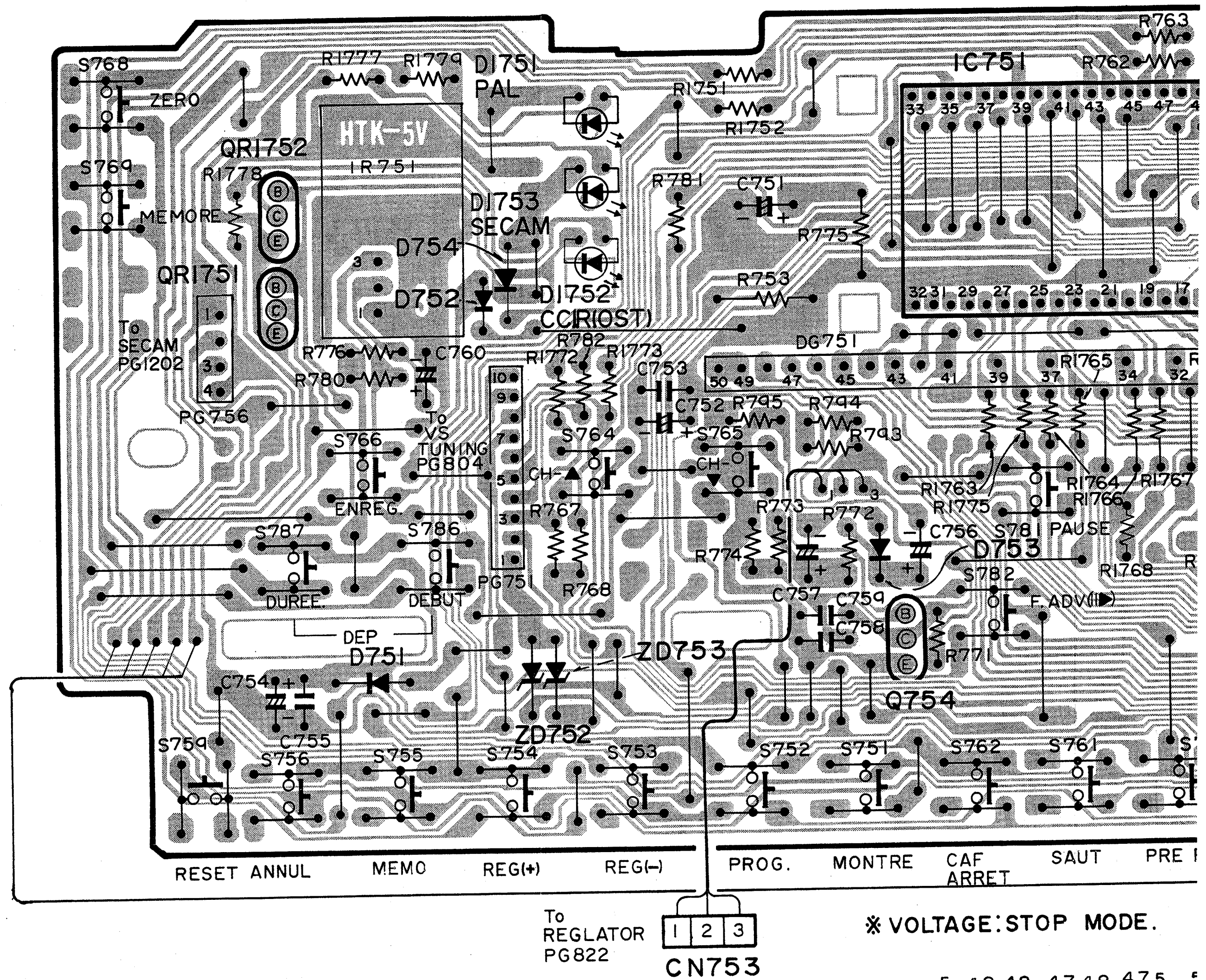
✻ VOLTAGE: STOP MODE.

TIMER/ INPUT KEY P.C.B

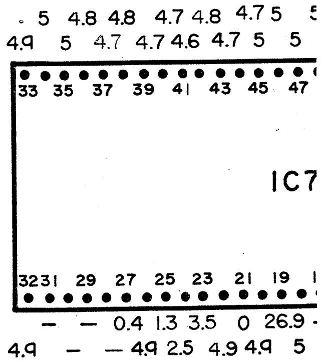
FRONT SWITCH (COMMUTATEURS DE MODE)

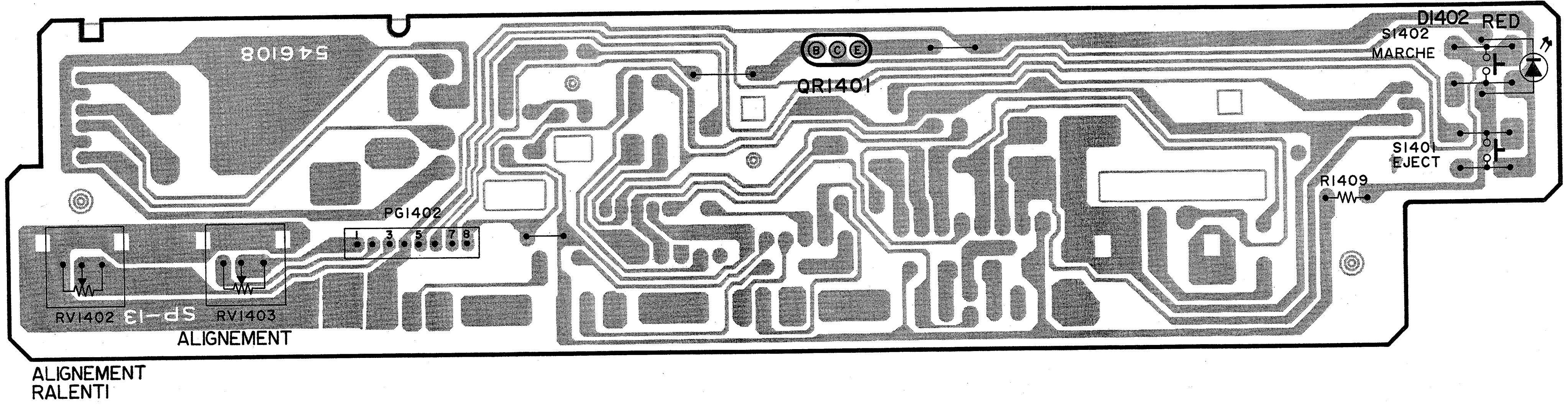

R1409
470
D1402
(MARCHE)
QR1401
DTC124F
5.1
PG1402
8 ATR INDI.
7 POWER INDI.
6 OPERATE SW
5 EJECT SW
4 GND
3 SLOW TRACK
2 TRACKING 2
1 TRACKING 1
To
SYS.CON./
SERVO
PG906
VIA
CNW906
S1402
MARCHE
S1401
EJECT
RV1402
20K-B
ALIGNEMENT
RALENTI
RV1403
500K-B
ALIGNEMENT
FRONT SWITCH P.C.B


NOTE:DTC124F
C
E
22K
22K

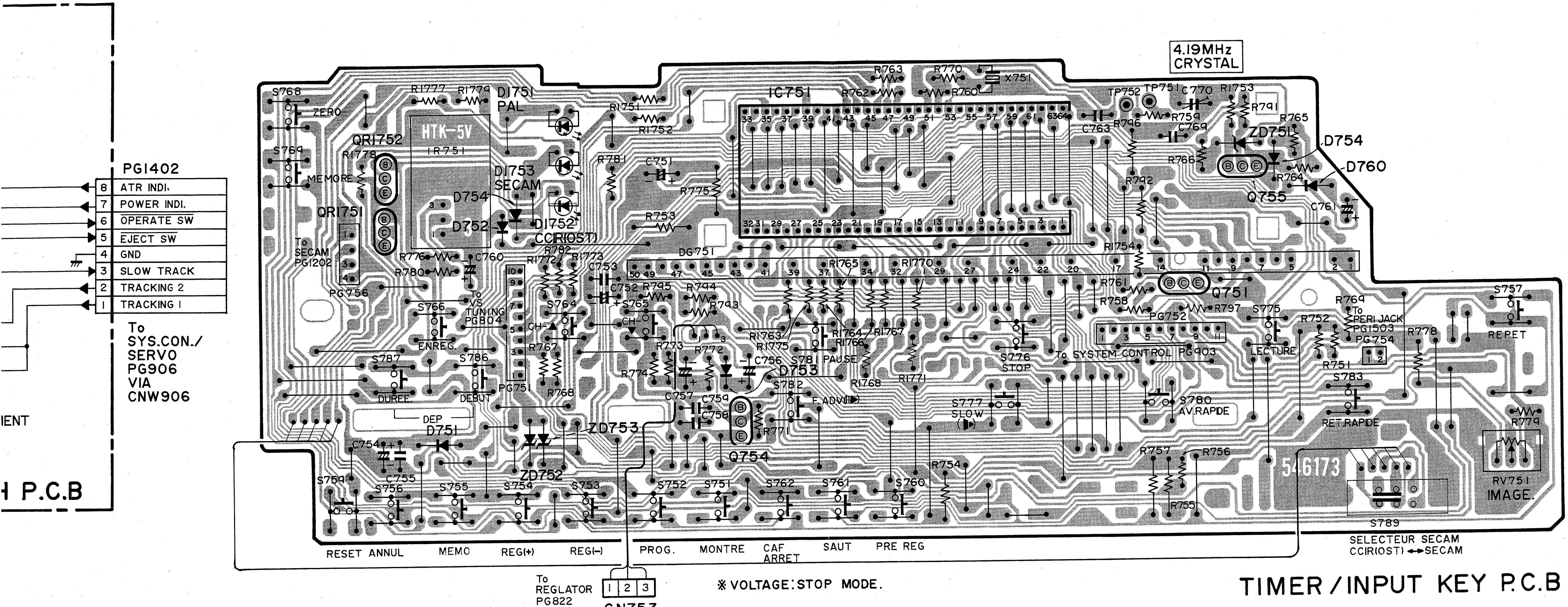

S768
ZERO
S769
MEMORE
QR1752
R1778
QR1751
To
SECAM
PG1202
PG756
R1777
R1779
D1751
PAL
HTK-5V
IR751
D1753
SECAM
D754
D752
D1752
CCIR(OST)
R1751
R1752
R781
C751
R775
R753
R763
IC751
R762
DG751
R776
R780
C760
R782
R1772
R1773
C753
C752
R795
R794
R793
R1765
S766
ENREG.
To
VS
TUNING
PG804
S764
CH-
S765
CH-
R1763
R1775
R1764
R1767
R1766
S787
DUREE
S786
DEBUT
PG751
R767
R768
R773
R772
R774
C756
S781
PAUSE
D753
R1768
C757
C759
C758
S782
F.ADV
R771
Q754
DEP
D751
ZD753
ZD752
C754
C755
S759
S756
S755
S754
S753
S752
S751
S762
S761
RESET ANNUL
MEMO
REG(+)
REG(-)
PROG.
MONTRE
CAF
ARRET
SAUT
PRE
To
REGLATOR
PG822
1 2 3
CN753

※VOLTAGE:STOP MODE.


5 4.8 4.8 4.7 4.8 4.7 5
4.9 5 4.7 4.7 4.6 4.7 5 5
33 35 37 39 41 43 45 47
IC7
32 31 29 27 25 23 21 19
— — 0.4 1.3 3.5 0 26.9
4.9 — — 4.9 2.5 4.9 4.9 5

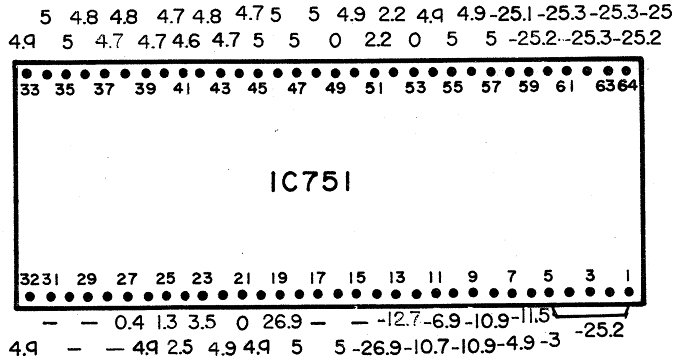

546108
QR1401
D1402 RED
S1402
MARCHE
S1401
EJECT
R1409
PG1402
1 3 5 7 8
SP-13
RV1402
RV1403
ALIGNEMENT
ALIGNEMENT
RALENTI

FRONT SWITCH P.C.B


PG1402
8 ATR INDI.
7 POWER INDI.
6 OPERATE SW
5 EJECT SW
4 GND
3 SLOW TRACK
2 TRACKING 2
1 TRACKING 1
To SYS.CON./ SERVO PG906 VIA CNW906
IENT
H P.C.B
4.19MHz CRYSTAL
IC751
X751
HTK-5V
IR751
D1751 PAL
D1753 SECAM
D1752 CCIR(OST)
QR1752
QR1751
DG751
Q751
Q754
Q755
D754
D760
ZD751
ZD752
ZD753
D753
D751
D752
To SECAM PG1202
PG756
To VS TUNING PG804
PG751
PG752
To SYSTEM CONTROL PG903
To PERI JACK PG1503
PG754
RV751 IMAGE.
S789
SELECTEUR SECAM CCIR(OST) ↔ SECAM
S768 ZERO
S769 MEMORE
S766 ENREG.
S787 DUREE
S786 DEBUT
DEP
S764 CH+
S765 CH-
S781 PAUSE
S776 STOP
S777 SLOW
S782 F.ADV
S780 AV.RAPIDE
S775 LECTURE
S783 RET.RAPIDE
S757 REPET
S759
S756
S755
S754
S753
S752
S751
S762
S761
S760
RESET ANNUL
MEMO
REG(+)
REG(-)
PROG.
MONTRE
CAF ARRET
SAUT
PRE REG
To REGLATOR PG822
CN753
546173

※VOLTAGE: STOP MODE.

TIMER / INPUT KEY P.C.B


5 4.8 4.8 4.7 4.8 4.7 5 5 4.9 2.2 4.9 4.9 -25.1 -25.3 -25.3 -25.3
4.9 5 4.7 4.7 4.6 4.7 5 5 0 2.2 0 5 5 -25.2 -25.3 -25.2
33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 64
IC751
32 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
– – 0.4 1.3 3.5 0 26.9 – – -12.7 -6.9 -10.9 -11.5 -25.2
4.9 – – 4.9 2.5 4.9 4.9 5 5 -26.9 -10.7 -10.9 -4.9 -3

SCHEMATIC DIAGMAM	PAGE
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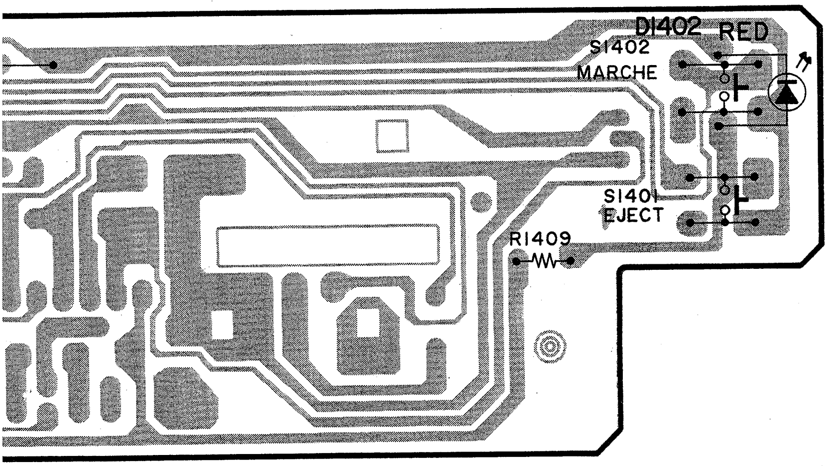
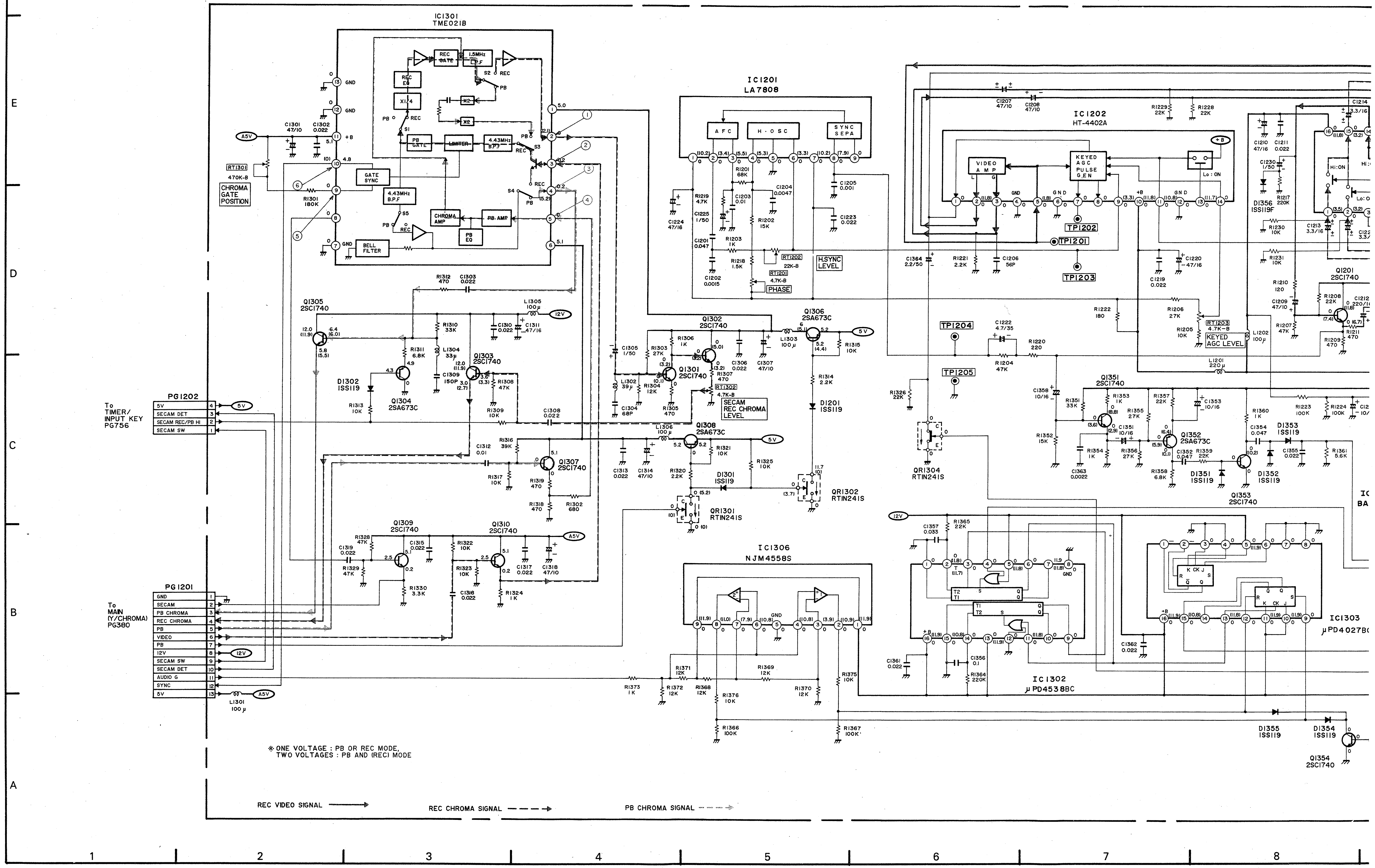
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

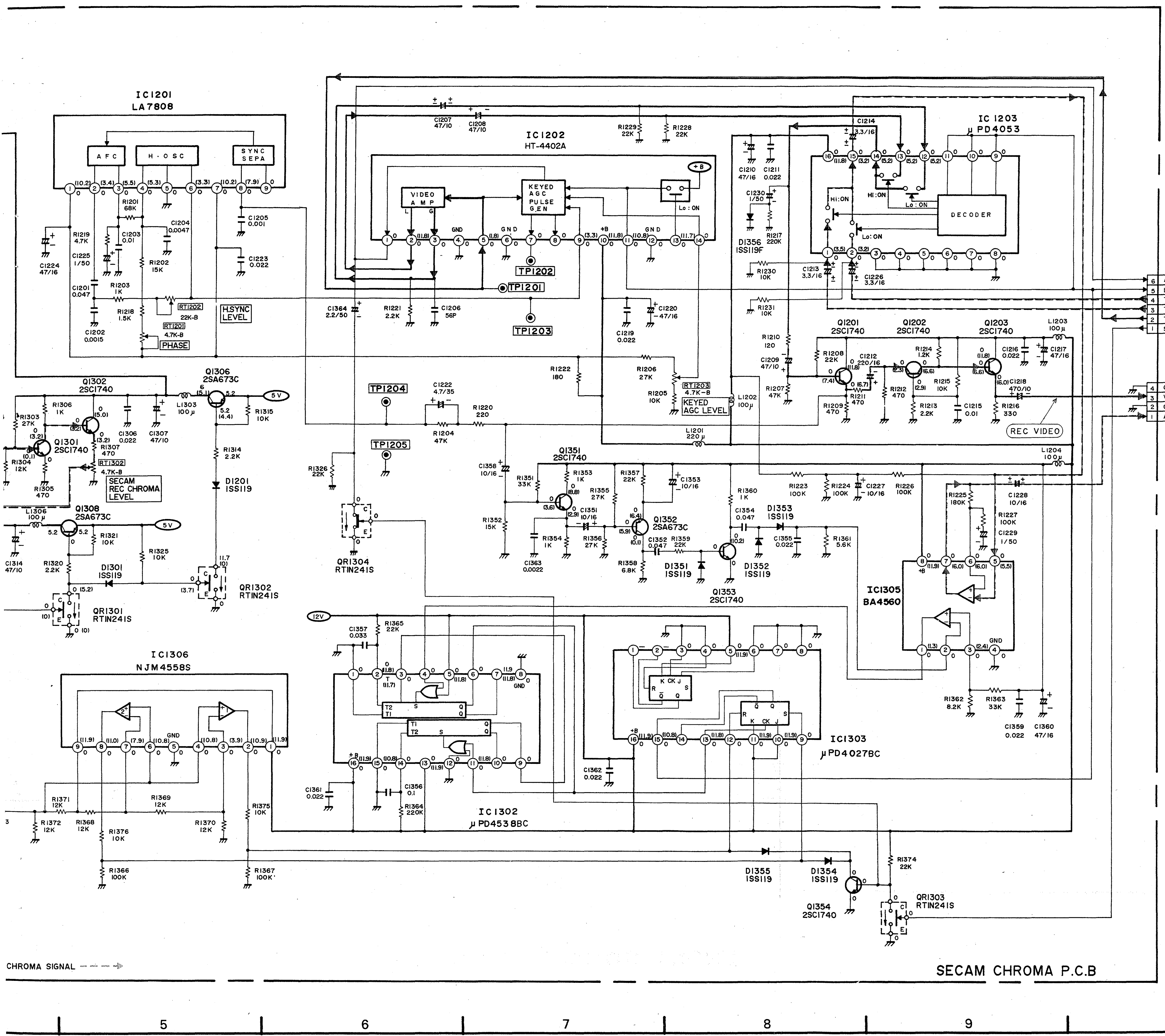

D1402 RED
S1402 MARCHE
S1401 EJECT
R1409

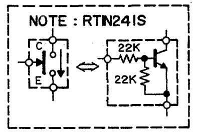
FRONT SWITCH P.C.B

SECAM CHROMA (CHROMINANCE SECAM)



IC1301
TME021B
REC GATE
1.5MHz L.P.F
REC EQ
X1/4
X2
PB GATE
LIMITER
4.43MHz B.P.F
GATE SYNC
4.43MHz B.P.F
CHROMA AMP
PB AMP
PB EQ
BELL FILTER
S1
S2
S3
S4
S5
REC
PB
GND
+B
A5V
C1301 47/10
C1302 0.022
RT1301 470K-B
CHROMA GATE POSITION
R1301 180K
IC1201
LA7808
AFC
H・OSC
SYNC SEPA
R1201 68K
C1203 0.01
C1204 0.0047
R1202 15K
R1203 1K
R1218 1.5K
RT1202 22K-B
RT1201 4.7K-B
PHASE
H.SYNC LEVEL
C1205 0.001
C1223 0.022
R1219 4.7K
C1225 1/50
C1224 47/16
C1201 0.047
C1202 0.0015
IC1202
HT-4402A
VIDEO AMP
KEYED AGC PULSE GEN
+B
Lo : ON
C1207 47/10
C1208 47/10
R1229 22K
R1228 22K
TP1201
TP1202
TP1203
TP1204
TP1205
C1364 2.2/50
R1221 2.2K
C1206 56P
C1222 4.7/35
R1220 220
R1204 47K
R1222 180
R1206 27K
R1205 10K
RT1203 4.7K-B
KEYED AGC LEVEL
L1201 220μ
L1202 100μ
C1219 0.022
C1220 47/16
C1210 47/16
C1211 0.022
C1230 1/50
D1356 1SS119F
R1217 220K
R1230 10K
R1231 10K
C1213 3.3/16
C1214 3.3/16
Hi:ON
Lo:ON
Q1201 2SC1740
R1210 120
C1209 47/10
R1208 22K
C1212 220/10
R1207 47K
R1211 470
R1209 470
Q1305 2SC1740
R1312 470
C1303 0.022
L1305 100μ
12V
R1310 33K
C1310 0.022
C1311 47/16
R1311 6.8K
L1304 33μ
C1309 150P
Q1303 2SC1740
R1308 47K
D1302 1SS119
Q1304 2SA673C
R1313 10K
R1309 10K
C1308 0.022
Q1302 2SC1740
C1305 1/50
R1303 27K
R1306 1K
C1306 0.022
C1307 47/10
L1303 100μ
Q1306 2SA673C
5V
R1315 10K
R1314 2.2K
D1201 1SS119
Q1301 2SC1740
R1307 470
RT1302 4.7K-B
SECAM REC CHROMA LEVEL
L1302 39μ
R1304 12K
C1304 68P
R1305 470
L1306 100μ
Q1308 2SA673C
R1321 10K
R1325 10K
C1313 0.022
C1314 47/10
R1320 2.2K
D1301 1SS119
QR1301 RTIN241S
QR1302 RTIN241S
QR1304 RTIN241S
R1326 22K
R1316 39K
C1312 0.01
Q1307 2SC1740
R1317 10K
R1319 470
R1318 470
R1302 680
Q1309 2SC1740
Q1310 2SC1740
R1328 47K
C1319 0.022
C1315 0.022
R1322 10K
R1329 47K
R1330 3.3K
R1323 10K
C1317 0.022
C1318 47/10
C1316 0.022
R1324 1K
PG1202
5V
SECAM DET
SECAM REC/PB HI
SECAM SW
To TIMER/ INPUT KEY PG756
PG1201
GND
SECAM
PB CHROMA
REC CHROMA
PB
VIDEO
PB
12V
SECAM SW
SECAM DET
AUDIO G
SYNC
5V
To MAIN (Y/CHROMA) PG380
L1301 100μ
IC1306
NJM4558S
R1371 12K
R1369 12K
R1373 1K
R1372 12K
R1368 12K
R1370 12K
R1375 10K
R1376 10K
R1366 100K
R1367 100K
Q1351 2SC1740
C1358 10/16
R1351 33K
R1353 1K
R1355 27K
R1357 22K
C1353 10/16
C1351 10/16
R1352 15K
R1354 1K
R1356 27K
R1358 6.8K
C1363 0.0022
Q1352 2SA673C
C1352 0.047
R1359 22K
D1351 1SS119
Q1353 2SC1740
R1360 1K
C1354 0.047
D1353 1SS119
C1355 0.022
R1361 5.6K
D1352 1SS119
R1223 100K
R1224 100K
C1357 0.033
R1365 22K
IC1302
μPD4538BC
C1361 0.022
C1356 0.1
R1364 220K
C1362 0.022
IC1303
μPD4027BC
D1355 1SS119
D1354 1SS119
Q1354 2SC1740
※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE
REC VIDEO SIGNAL
REC CHROMA SIGNAL
PB CHROMA SIGNAL
E
D
C
B
A
1
2
3
4
5
6
7
8


IC1201
LA7808
AFC
H・OSC
SYNC SEPA
R1201 68K
C1203 0.01
C1204 0.0047
C1205 0.001
C1223 0.022
R1219 4.7K
C1225 1/50
C1224 47/16
R1202 15K
R1203 1K
C1201 0.047
R1218 1.5K
RT1202 22K-B
RT1201 4.7K-B
H.SYNC LEVEL
PHASE
C1202 0.0015
IC1202
HT-4402A
VIDEO AMP
KEYED AGC PULSE GEN
+B
Lo : ON
C1207 47/10
C1208 47/10
R1229 22K
R1228 22K
TP1202
TP1201
TP1203
C1364 2.2/50
R1221 2.2K
C1206 56P
C1220 47/16
C1219 0.022
R1222 180
R1206 27K
R1205 10K
RT1203 4.7K-B
KEYED AGC LEVEL
IC 1203
μ PD4053
DECODER
Hi:ON
Lo:ON
C1214 3.3/16
C1210 47/16
C1211 0.022
C1230 1/50
D1356 ISS119F
R1217 220K
R1230 10K
R1231 10K
C1213 3.3/16
C1226 3.3/16
R1210 120
C1209 47/10
R1207 47K
L1202 100μ
Q1201 2SC1740
Q1202 2SC1740
Q1203 2SC1740
R1208 22K
C1212 220/16
R1214 1.2K
C1216 0.022
C1217 47/16
L1203 100μ
R1211 470
R1212 470
R1215 10K
R1209 470
R1213 2.2K
C1215 0.01
C1218 470/10
R1216 330
REC VIDEO
PG1301
6 AGC
5 L SECAM "HI"
4 TUN.AUDIO-G
3 TUN.AUDIO-L
2 TUN.VIDEO
1 SELECT HI
REAR JACK
VIDEO I/O
To MAIN PG456
PG1302
4 GND
3 VIDEO
2 GND
1 AUDIO
To MAIN (REAR JACK) PG454
Q1302 2SC1740
Q1306 2SA673C
5V
R1306 1K
R1303 27K
Q1301 2SC1740
R1304 12K
R1305 470
R1307 470
RT1302 4.7K-B
SECAM REC CHROMA LEVEL
C1306 0.022
C1307 47/10
L1303 100μ
R1315 10K
R1314 2.2K
D1201 ISS119
TP1204
TP1205
C1222 4.7/35
R1220 220
R1204 47K
L1201 220μ
R1326 22K
QR1304 RTN241S
L1306 100μ
Q1308 2SA673C
R1321 10K
R1325 10K
C1314 47/10
R1320 2.2K
D1301 ISS119
QR1302 RTN241S
QR1301 RTN241S
Q1351 2SC1740
C1358 10/16
R1351 33K
R1352 15K
R1353 1K
R1355 27K
R1357 22K
C1353 10/16
C1351 10/16
C1363 0.0022
R1354 1K
R1356 27K
Q1352 2SA673C
C1352 0.047
R1359 22K
R1358 6.8K
D1351 ISS119
Q1353 2SC1740
R1360 1K
C1354 0.047
D1353 ISS119
C1355 0.022
R1361 5.6K
D1352 ISS119
R1223 100K
R1224 100K
C1227 10/16
R1226 100K
L1204 100μ
R1225 180K
C1228 10/16
R1227 100K
C1229 1/50
IC1305
BA4560
R1362 8.2K
R1363 33K
C1359 0.022
C1360 47/16
12V
C1357 0.033
R1365 22K
IC1302
μ PD4538BC
C1361 0.022
C1356 0.1
R1364 220K
C1362 0.022
IC1303
μ PD4027BC
IC1306
NJM4558S
R1371 12K
R1372 12K
R1368 12K
R1369 12K
R1376 10K
R1370 12K
R1375 10K
R1366 100K
R1367 100K
D1355 ISS119
D1354 ISS119
R1374 22K
Q1354 2SC1740
QR1303 RTN241S
CHROMA SIGNAL
SECAM CHROMA P.C.B
5
6
7
8
9
10
11

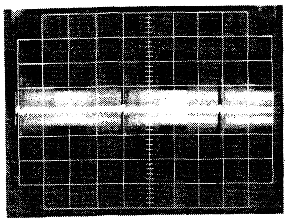

NOTE : RTN241S
C
E
22K
22K

SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

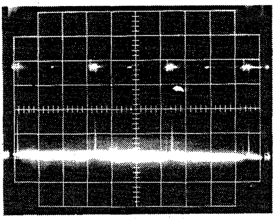
SECAM CHROMA CIRCUIT WAVEFORMS
(OSCILLOGRAMMES DE CIRCUIT DE CHROMINANCE SECAM)

[IC1301]

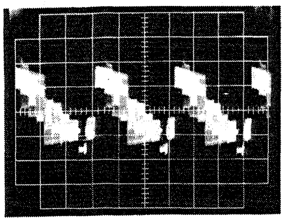
① PIN 2 REC
0.1V/5msec. div.



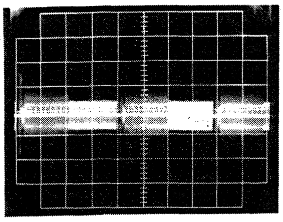
⑥ PIN 10 PB
1V/20μsec. div.



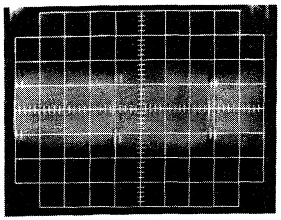
② PIN 3 REC
0.2V/20μsec. div.



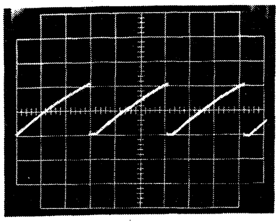
③ PIN 4 PB
0.1V/5msec. div.



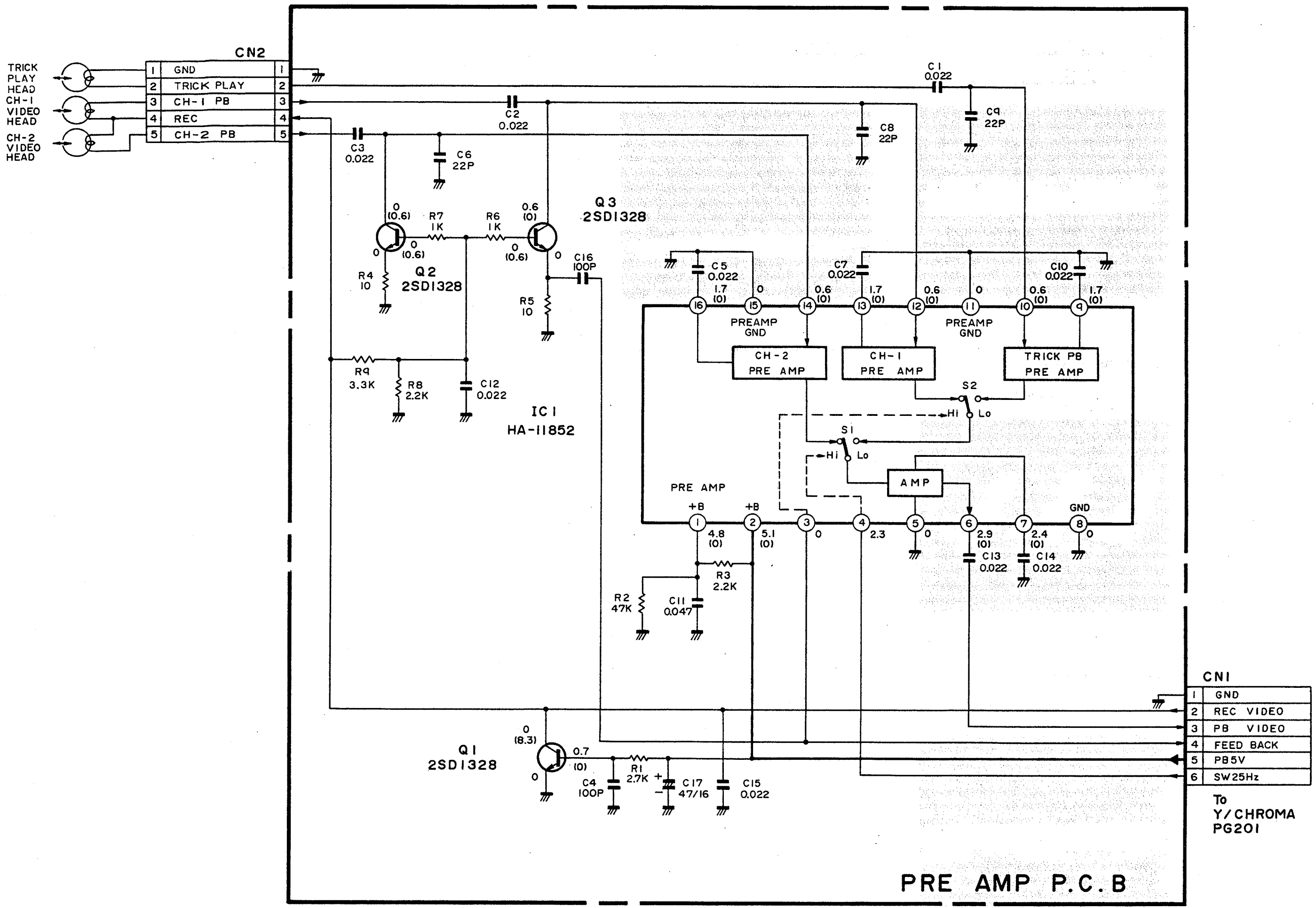
④ PIN 5 PB
0.1V/5msec. div.



⑤ PIN 9 PB
1V/20μsec. div.

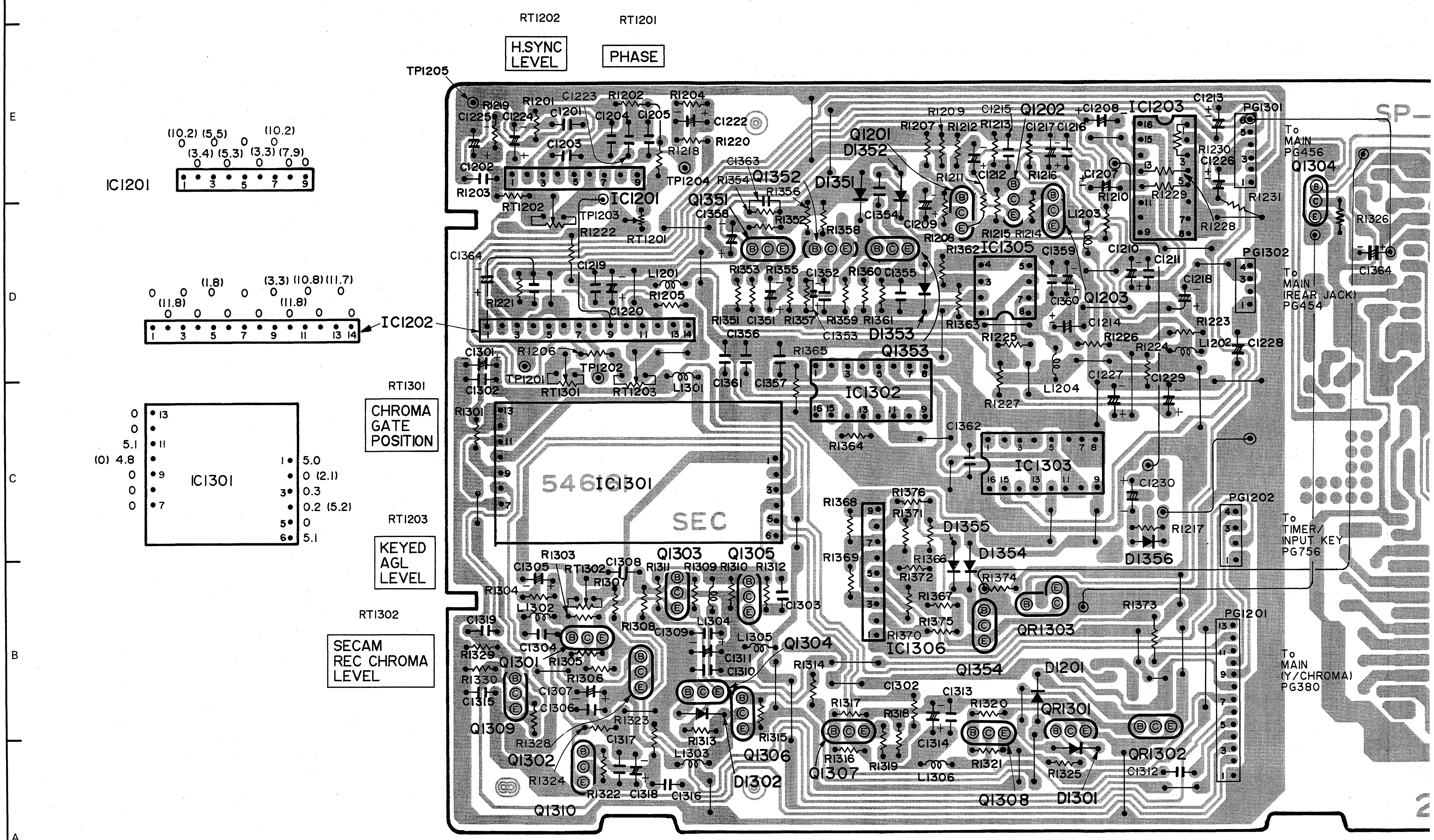


PRE AMP (PRÉAMPLIFICATEUR)


TRICK PLAY HEAD
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
CN2
1 GND 1
2 TRICK PLAY 2
3 CH-1 PB 3
4 REC 4
5 CH-2 PB 5
C1 0.022
C9 22P
C8 22P
C2 0.022
C3 0.022
C6 22P
Q3 2SD1328
Q2 2SD1328
R7 1K
R6 1K
R4 10
R5 10
C16 100P
R9 3.3K
R8 2.2K
C12 0.022
IC1 HA-11852
C5 0.022
C7 0.022
C10 0.022
PREAMP GND
CH-2 PRE AMP
CH-1 PRE AMP
TRICK PB PRE AMP
S2
S1
Hi
Lo
AMP
PRE AMP
+B
GND
R2 47K
C11 0.047
R3 2.2K
C13 0.022
C14 0.022
Q1 2SD1328
C4 100P
R1 2.7K
C17 47/16
C15 0.022
CN1
1 GND
2 REC VIDEO
3 PB VIDEO
4 FEED BACK
5 PB5V
6 SW25Hz
To Y/CHROMA PG201
PRE AMP P.C.B

※ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

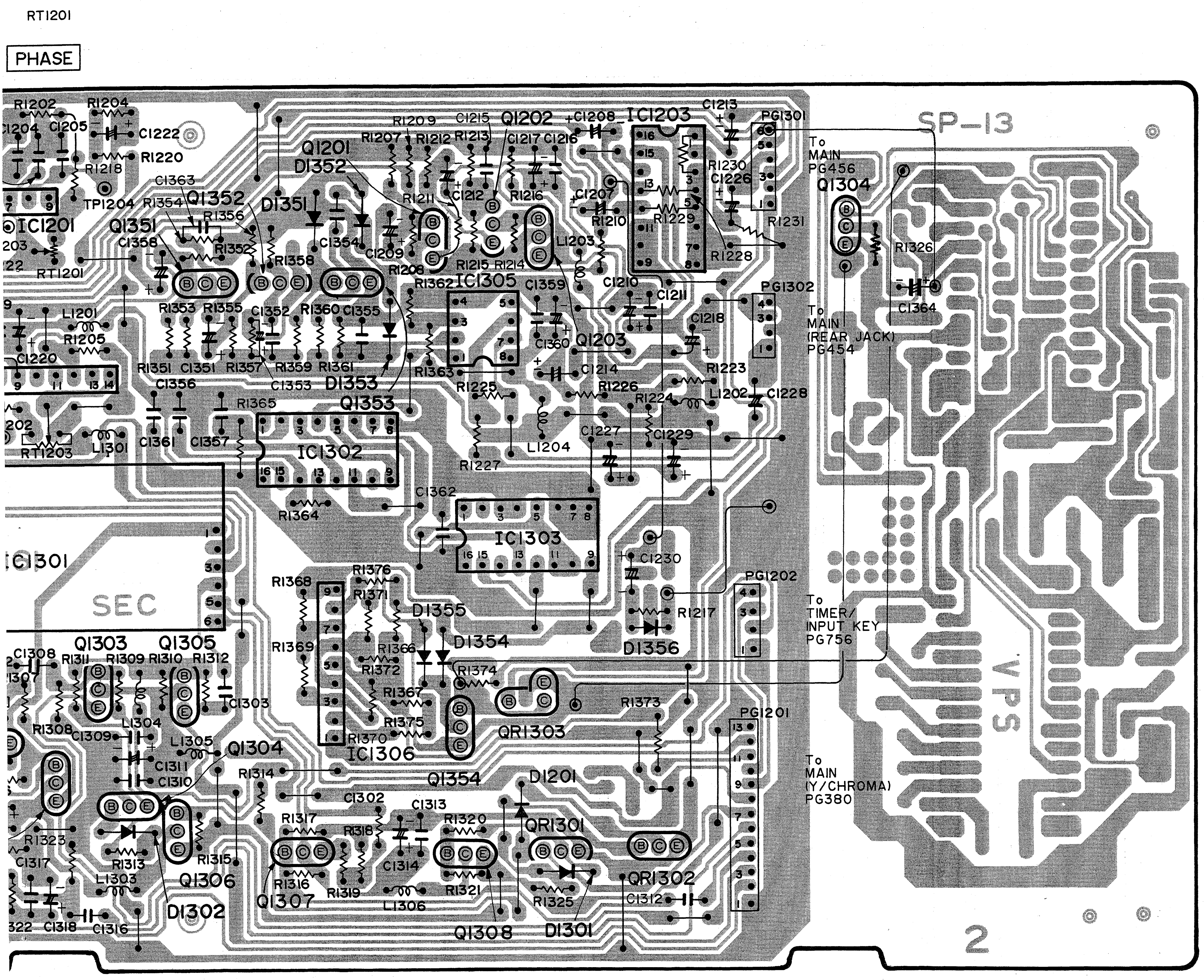


RT1202
H.SYNC LEVEL
RT1201
PHASE
TP1205
IC1201
(10.2) (5.5) 0 (10.2)
0 0 0 0
(3.4) (5.3) (3.3) (7.9)
0 0 0 0 0 0
1 3 5 7 9
IC1202
(1.8) (3.3) (10.8) (11.7)
0 0 0 0 0 0
(11.8) (11.8)
0 0 0 0 0 0 0
1 3 5 7 9 11 13 14
IC1301
0 13
0
5.1 11
(0) 4.8
0 9
0
0 7
1 5.0
0 (2.1)
3 0.3
0.2 (5.2)
5 0
6 5.1
RT1301
CHROMA GATE POSITION
RT1203
KEYED AGL LEVEL
RT1302
SECAM REC CHROMA LEVEL
TP1201
TP1202
TP1203
TP1204
Q1201
Q1202
Q1203
Q1301
Q1302
Q1303
Q1304
Q1305
Q1306
Q1307
Q1308
Q1309
Q1310
Q1351
Q1352
Q1353
Q1354
QR1301
QR1302
QR1303
IC1203
IC1302
IC1303
IC1305
IC1306
D1201
D1301
D1302
D1351
D1352
D1353
D1354
D1355
D1356
L1201
L1202
L1203
L1204
L1301
L1302
L1303
L1304
L1305
L1306
5461
SEC
SP-
PG1301
To MAIN PG456
PG1302
To MAIN (REAR JACK) PG454
PG1202
To TIMER/ INPUT KEY PG756
PG1201
To MAIN (Y/CHROMA) PG380
A
B
C
D
E
1
2
3
4
5
6
7
8

※ ONE VOLTAGE : PB OR REC MODE,

TWO VOLTAGES : PB AND (REC) MODE.

SECAM CHRC


RT1201
PHASE
SP-13
VPS
SEC
2
IC1201
IC1203
IC1301
IC1302
IC1303
IC1305
IC1306
Q1201
Q1202
Q1203
Q1303
Q1304
Q1305
Q1306
Q1307
Q1308
Q1351
Q1352
Q1353
Q1354
QR1301
QR1302
QR1303
D1201
D1301
D1302
D1351
D1352
D1353
D1354
D1355
D1356
R1202
R1204
R1205
R1207
R1208
R1209
R1210
R1211
R1212
R1213
R1214
R1215
R1216
R1217
R1218
R1220
R1223
R1224
R1225
R1226
R1227
R1228
R1229
R1230
R1231
R1308
R1309
R1310
R1311
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RT1203
C1204
C1205
C1207
C1208
C1209
C1210
C1211
C1212
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C1216
C1217
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C1222
C1226
C1227
C1228
C1229
C1230
C1302
C1303
C1307
C1308
C1309
C1310
C1311
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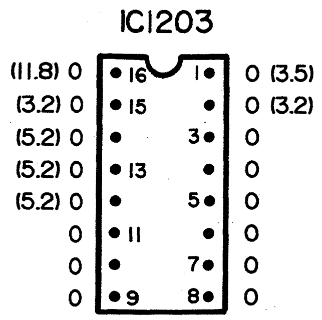
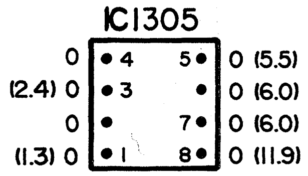
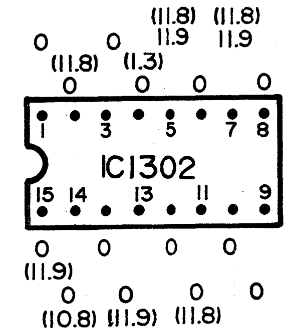
C1359
C1360
C1361
C1362
C1363
C1364
L1201
L1202
L1203
L1204
L1301
L1303
L1304
L1305
L1306
TP1204
PG1201
PG1202
PG1301
PG1302
To MAIN PG456
To MAIN (REAR JACK) PG454
To TIMER/ INPUT KEY PG756
To MAIN (Y/CHROMA) PG380
B
C
E


IC1203
16
15
13
11
9
1
3
5
7
8
(11.8) 0
(3.2) 0
(5.2) 0
(5.2) 0
(5.2) 0
0
0
0
0 (3.5)
0 (3.2)
0
0
0
0
0
0


IC1305
4
5
3
1
7
8
0
(2.4) 0
0
(1.3) 0
0 (5.5)
0 (6.0)
0 (6.0)
0 (11.9)


IC1302
1
3
5
7
8
15
14
13
11
9
0
(11.8)
0
(1.3)
0
(11.8)
11.9
0
(11.8)
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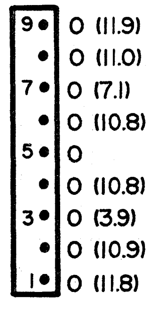
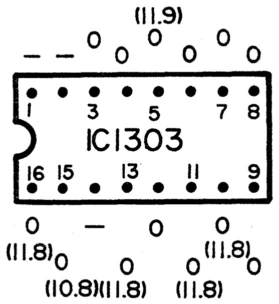
(10.8)
(11.9)
(11.8)


9
7
5
3
1
0 (11.9)
0 (11.0)
0 (7.1)
0 (10.8)
0
0 (10.8)
0 (3.9)
0 (10.9)
0 (11.8)

IC1306


IC1303
(11.9)
—
—
0
0
0
0
0
1
3
5
7
8
16
15
13
11
9
0
—
0
0
(11.8)0
0
0
(11.8)0
(10.8)
(11.8)
(11.8)

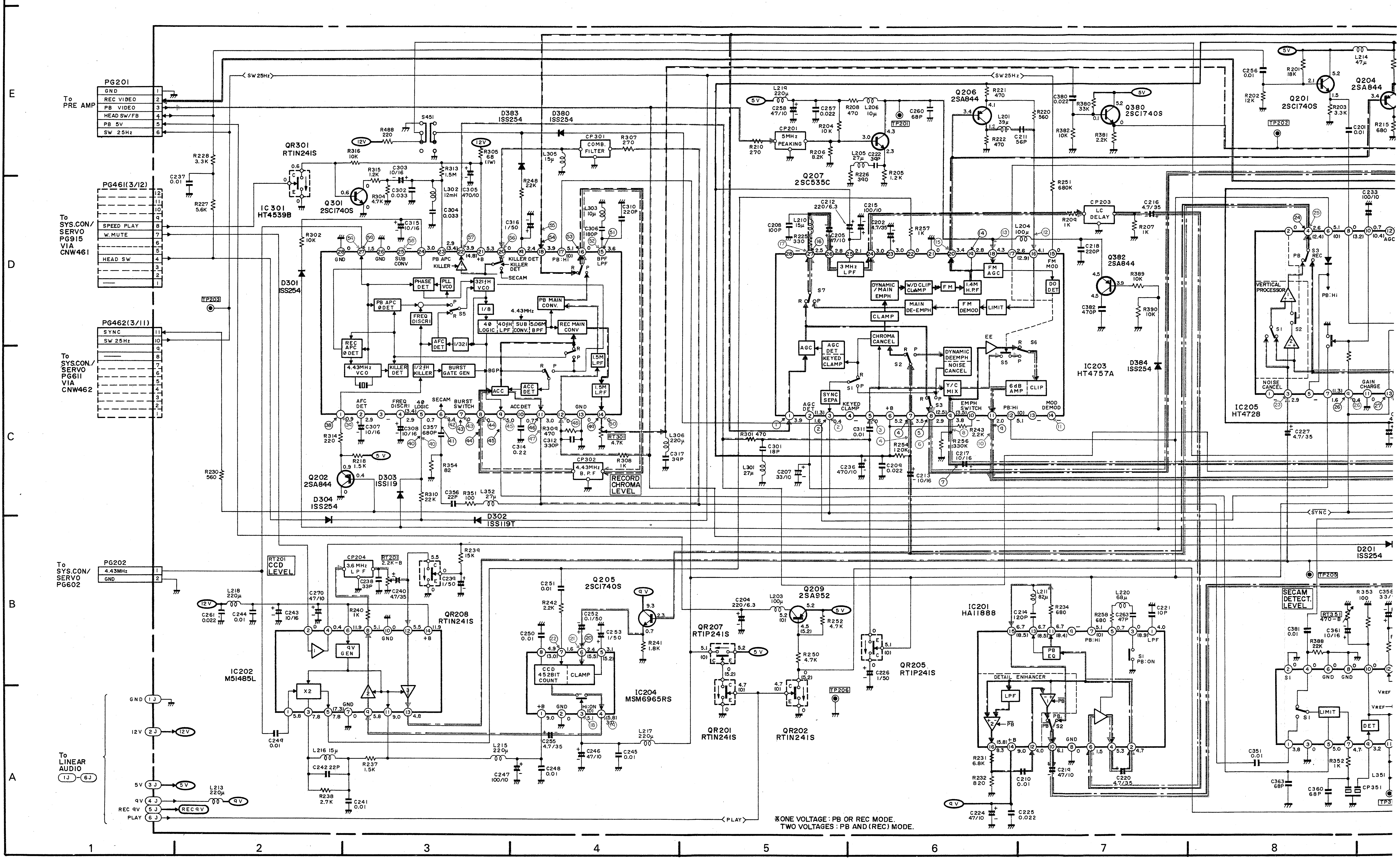
)DE,

:) MODE.

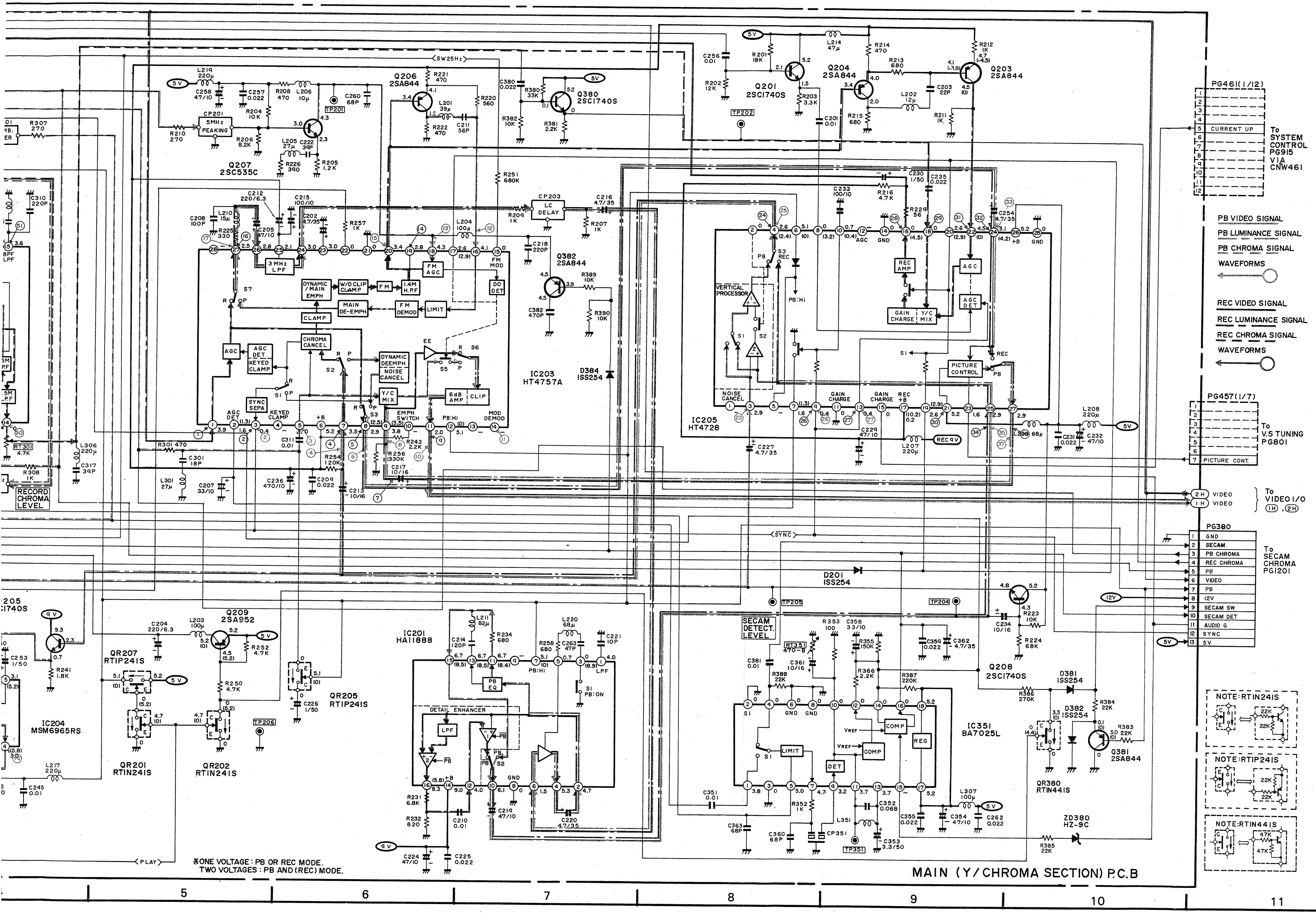
SECAM CHROMA P.C.B

4 5 6 7 8 9 10 11

Y/CHROMA (LUMINANCE/CHROMINANCE)


To PRE AMP
PG201
GND
REC VIDEO
PB VIDEO
HEAD SW/FB
PB 5V
SW 25Hz
To SYS.CON/ SERVO PG915 VIA CNW461
PG461(3/12)
SPEED PLAY
W. MUTE
HEAD SW
To SYS.CON/ SERVO PG611 VIA CNW462
PG462(3/11)
SYNC
SW 25Hz
To SYS.CON/ SERVO PG602
PG202
4.43MHz
GND
To LINEAR AUDIO
1J ~ 6J
GND
12V
5V
9V
REC 9V
PLAY
QR301 RTIN241S
Q301 2SC1740S
IC301 HT4539B
D301 ISS254
Q202 2SA844
D303 ISS119
D304 ISS254
D302 ISS119T
D383 ISS254
D380 ISS254
S451
CP301 COMB. FILTER
CP302 4.43MHz B.P.F
RECORD CHROMA LEVEL
RT301 4.7K
PHASE DET
PLL VCO
321fH VCO
PB APC ΦDET
FREQ DISCRI
REC APC ΦDET
4.43MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
ACC
ACC DET
AFC DET
1/321
1/8
40 LOGIC
40fH LPF
SUB CONV.
5.06M BPF
PB MAIN CONV.
REC MAIN CONV
1.5M LPF
AFC DET
FREQ DISCRI
40 LOGIC
SECAM
BURST SWITCH
ACC DET
GND
PB APC KILLER
KILLER DET
SECAM
SUB CONV
SW 25Hz
RT201 CCD LEVEL
CP204 3.6MHz LPF
RT201 2.2K-B
IC202 M51485L
QR208 RTIN241S
9V GEN
X2
Q205 2SC1740S
IC204 MSM6965RS
CCD 4528IT COUNT
CLAMP
QR207 RTIP241S
Q209 2SA952
QR201 RTIN241S
QR202 RTIN241S
QR205 RTIP241S
TP203
TP201
TP202
TP205
TP206
Q207 2SC535C
CP201 5MHz PEAKING
Q206 2SA844
Q380 2SC1740S
Q201 2SC1740S
Q204 2SA844
CP203 LC DELAY
Q382 2SA844
D384 ISS254
IC203 HT4757A
3 MHz LPF
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.PF
FM AGC
DO DET
FM MOD
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
AGC
AGC DET KEYED CLAMP
CHROMA CANCEL
DYNAMIC DEEMPH NOISE CANCEL
SYNC SEPA
Y/C MIX
6dB AMP
CLIP
EE
AGC DET
KEYED CLAMP
EMPH SWITCH
MOD DEMOD
PB:HI
IC205 HT4728
VERTICAL PROCESSOR
NOISE CANCEL
GAIN CHARGE
PB:HI
D201 ISS254
SYNC
IC201 HA11888
DETAIL ENHANCER
LPF
PB EQ
S1 PB:ON
SECAM DETECT. LEVEL
RT351 470-B
LIMIT
DET
CP351
PLAY
1
2
3
4
5
6
7
8
A
B
C
D
E

※ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.


IC203 HT4757A
IC205 HT4728
IC201 HA11888
IC351 BA7025L
IC204 MSM6965RS
Q206 2SA844
Q380 2SC1740S
Q201 2SC1740S
Q204 2SA844
Q203 2SA844
Q207 2SC535C
Q382 2SA844
Q209 2SA952
Q208 2SC1740S
Q381 2SA844
QR207 RTIP241S
QR201 RTIN241S
QR202 RTIN241S
QR205 RTIP241S
QR380 RTIN441S
D384 ISS254
D201 ISS254
D381 ISS254
D382 ISS254
ZD380 HZ-9C
CP201 5MHz PEAKING
CP203 LC DELAY
TP201
TP202
TP204
TP205
TP206
TP351
RECORD CHROMA LEVEL
SECAM DETECT. LEVEL
DETAIL ENHANCER
VERTICAL PROCESSOR
NOISE CANCEL
GAIN CHARGE
REC AMP
AGC DET
PICTURE CONTROL
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM AGC
FM MOD
DO DET
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
CHROMA CANCEL
DYNAMIC DEEMPH NOISE CANCEL
Y/C MIX
6dB AMP
CLIP
SYNC SEPA
KEYED CLAMP
3MHz LPF
1.4M H.PF
PB EQ
LIMIT
COMP
REG
DET
PG461(1/12)
CURRENT UP
To SYSTEM CONTROL PG915 VIA CNW461
PB VIDEO SIGNAL
PB LUMINANCE SIGNAL
PB CHROMA SIGNAL
WAVEFORMS
REC VIDEO SIGNAL
REC LUMINANCE SIGNAL
REC CHROMA SIGNAL
WAVEFORMS
PG457(1/7)
PICTURE CONT.
To V.S TUNING PG801
2H VIDEO
1H VIDEO
To VIDEO I/O (1H), (2H)
PG380
1 GND
2 SECAM
3 PB CHROMA
4 REC CHROMA
5 PB
6 VIDEO
7 PB
8 12V
9 SECAM SW
10 SECAM DET
11 AUDIO G
12 SYNC
13 5V
To SECAM CHROMA PG1201
NOTE:RTIN241S
NOTE:RTIP241S
NOTE:RTIN441S
※ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.
5
6
7
8
9
10
11

MAIN (Y/CHROMA SECTION) P.C.B

SCHEMATIC DIAGMAM	PAGE
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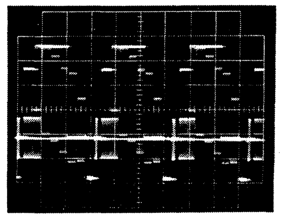
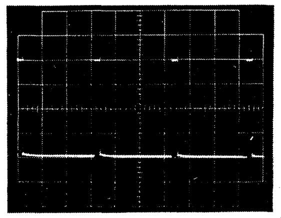
Y/CHROMA CIRCUIT WAVEFORMS
(OSCILLOGRAMMES DE CIRCUIT DE LUMINANCE/CHROMINANCE)

[IC203] **(REC: Colour bar Video in/PB: Alignment tape)**

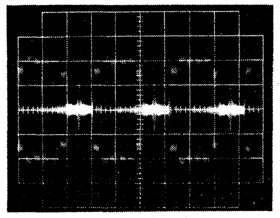
① PIN1 REC
0.1V/20μs. div.



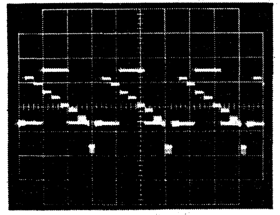
② PIN3 REC/PB
1V/20μs. div.



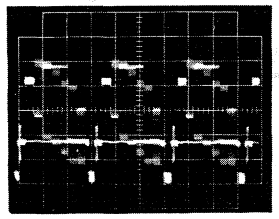
③ PIN5 PB
50mV/20μs. div.



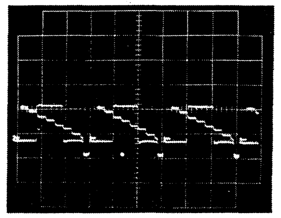
④ PIN7 REC/PB
0.1V/20μs. div.



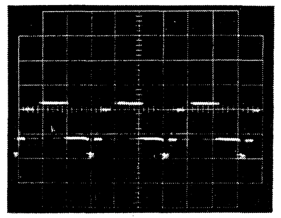
⑤ PIN8 REC
50mV/20μs. div.



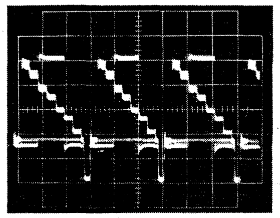
⑥ PIN8 PB
0.5V/20μs. div.



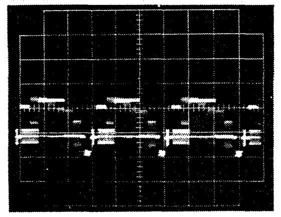
⑦ PIN9 REC
0.1V/20μs. div.



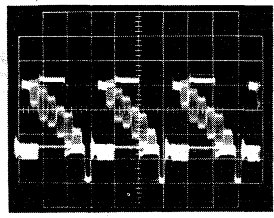
⑧ PIN9 PB
0.2V/20μs. div.



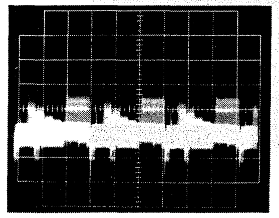
⑨ PIN11 REC
0.1V/20μs. div.



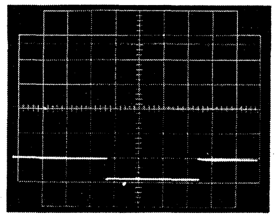
⑩ PIN11 PB
0.5V/20μs. div.



⑪ PIN14 PB
0.2V/20μs. div.

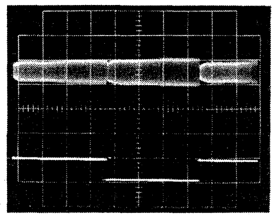


⑫ PIN16 PB
0.5V/5ms. div.



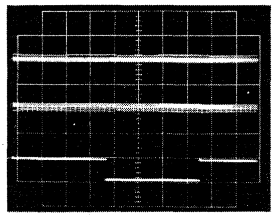
(SW25Hz: 5Vdiv.)

⑬ PIN18 PB
0.5V/5ms. div.



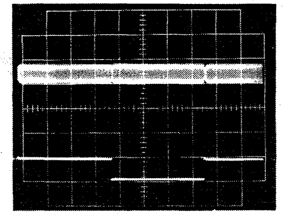
(SW25Hz: 5Vdiv.)

⑭ PIN19 REC
0.5V/5ms. div.



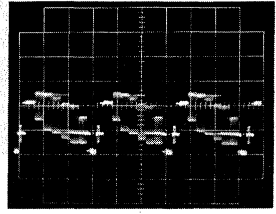
(SW25Hz: 5Vdiv.)

⑮ PIN20 PB
0.5V/5ms. div.

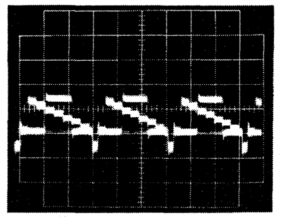


(SW25Hz: 5Vdiv.)

⑯ PIN27 REC
0.1V/20μs. div.

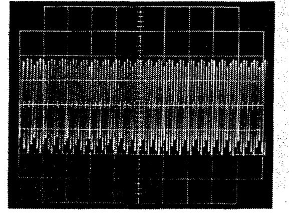


⑰ PIN27 PB
0.1V/20μs. div.

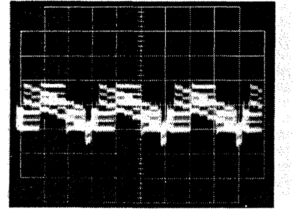


[IC204]

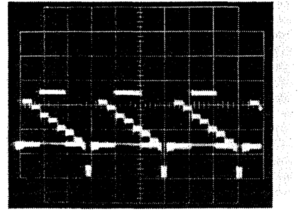
⑱ PIN3 PB
0.2V/0.5μs. div.



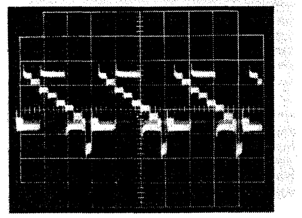
⑲ PIN4 PB
0.5V/20μs. div.



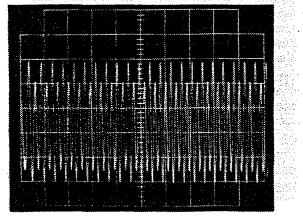
⑳ PIN6 REC
0.1V/20μs. div.



㉑ PIN6 PB
0.1V/20μs. div.

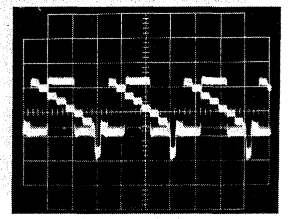


㉒ PIN7 PB
0.1V/0.5μs. div.

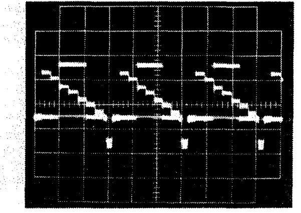


[IC205]

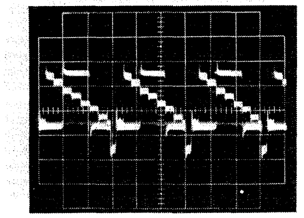
㉓ PIN3 PB
0.1V/20μs. div.



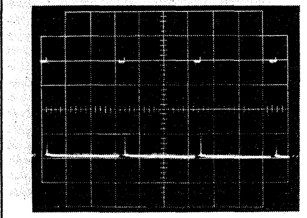
㉔ PIN 4 REC
10mV/20μs. div.



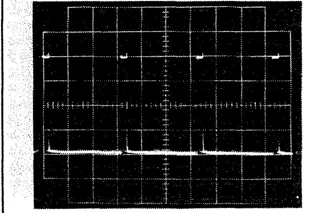
㉕ PIN4 PB
10mV/20μs. div.



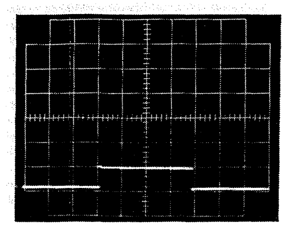
㉖ PIN9 REC/PB
1V/20μs. div.



㉗ PIN13 REC/PB
1V/20μs. div.

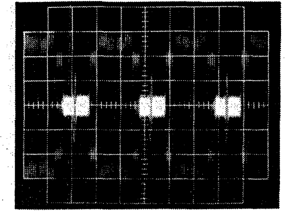


㉘ PIN16 REC
0.5V/5ms. div.

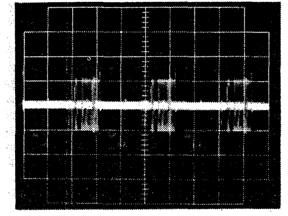


(SW25Hz: 5Vdiv.)

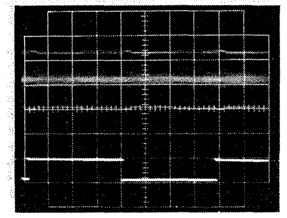
㉙ PIN18 REC
20mV/20μs. div.



㉚ PIN21 REC
50mV/20μs. div.

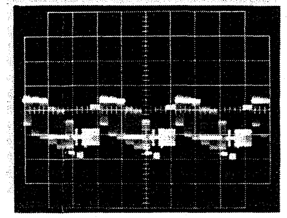


㉛ PIN22 REC
0.2V/5ms. div.

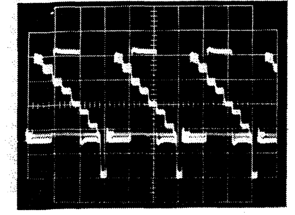


(SW25Hz: 5Vdiv.)

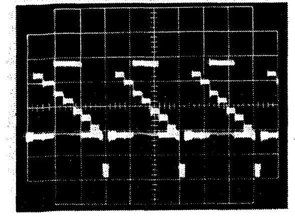
㉜ PIN24 REC
0.1V/20μs. div.



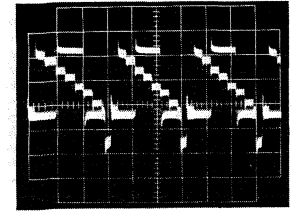
㉝ PIN24 PB
0.2V/20μs. div.



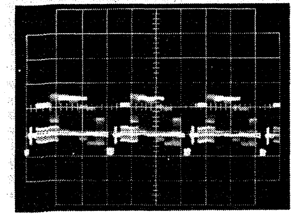
㉞ PIN25 REC
0.1V/20μs. div.



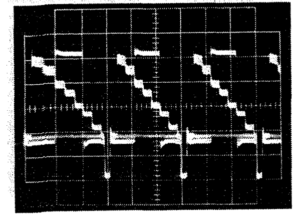
㉟ PIN25 PB
0.1V/20μs. div.



㊱ PIN27 REC
0.1V/20μs. div.

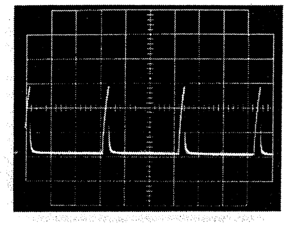


㊲ PIN27 PB
0.2V/20μs. div.

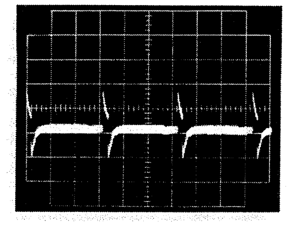


[IC301]

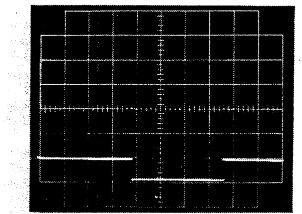
㊳ PIN1 REC
1V/20µs. div.



㊸ PIN7 REC/PB
0.1V/20µs. div.

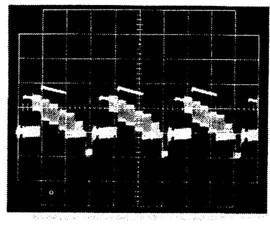


㊽ PIN12 PB
50mV/0.5ms. div.

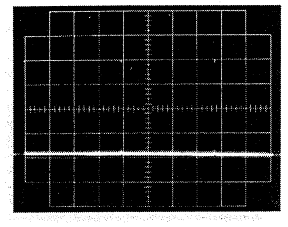


(SW25Hz: 5Vdiv.)

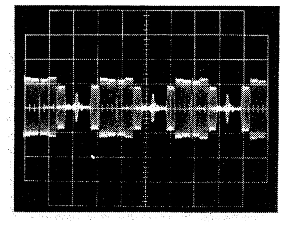
(53) PIN16 REC
0.2V/20µs. div.



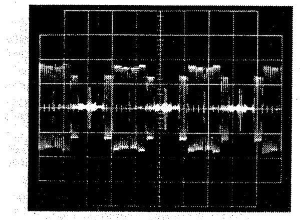
㊴ PIN1 PB
1V/0.5ms. div.



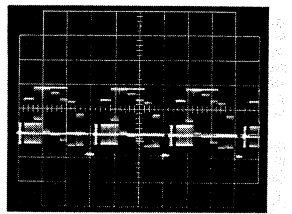
㊹ PIN8 REC/PB
50mV/20µs. div.



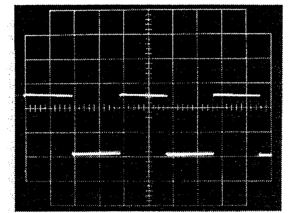
㊾ PIN14 REC
0.1V/20µs. div.



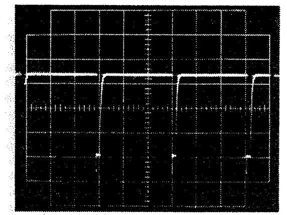
(54) PIN18 REC
0.2V/20µs. div.



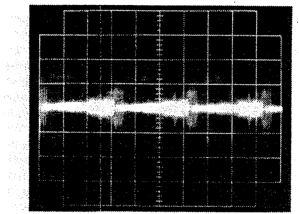
㊵ PIN5 REC/PB
0.5V/10ms. div.



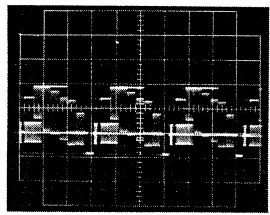
㊺ PIN9 REC/PB
1V/20µs. div.



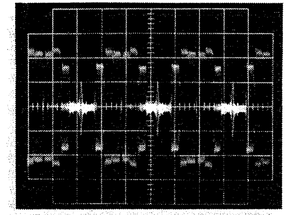
㊿ PIN14 PB
50mV/20µs. div.



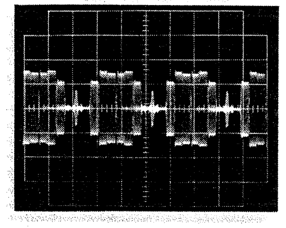
(55) PIN18 PB
0.2V/20µs. div.



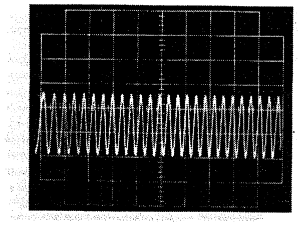
㊶ PIN6 REC
0.1V/20µs. div.



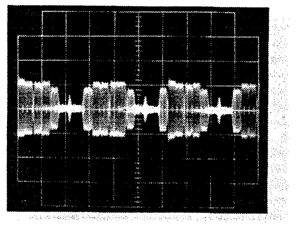
㊻ PIN11 REC
0.2V/20µs. div.



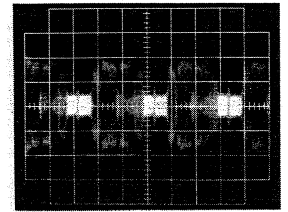
(51) PIN15 REC
0.1V/0.5µs. div.



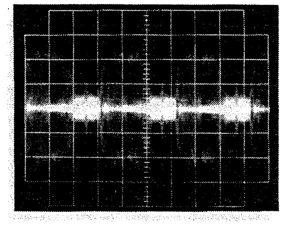
(56) PIN20 PB
50mV/20µs. div.



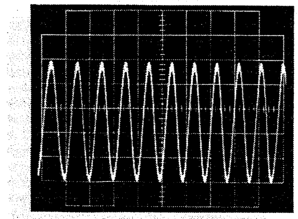
㊷ PIN6 PB
20mV/20µs. div.



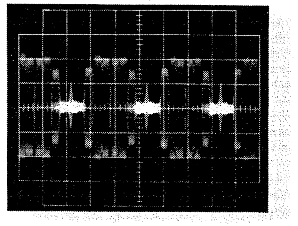
㊼ PIN11 PB
0.2V/20µs. div.



(52) PIN15 PB
50mV/0.2µs. div.

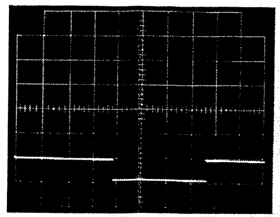


(57) PIN22 PB
0.1V/20µs. div.



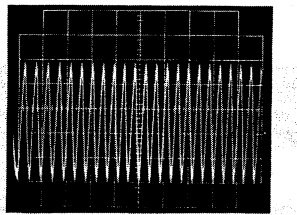
[IC301]

(58) PIN25 PB
0.1V/5ms. div.

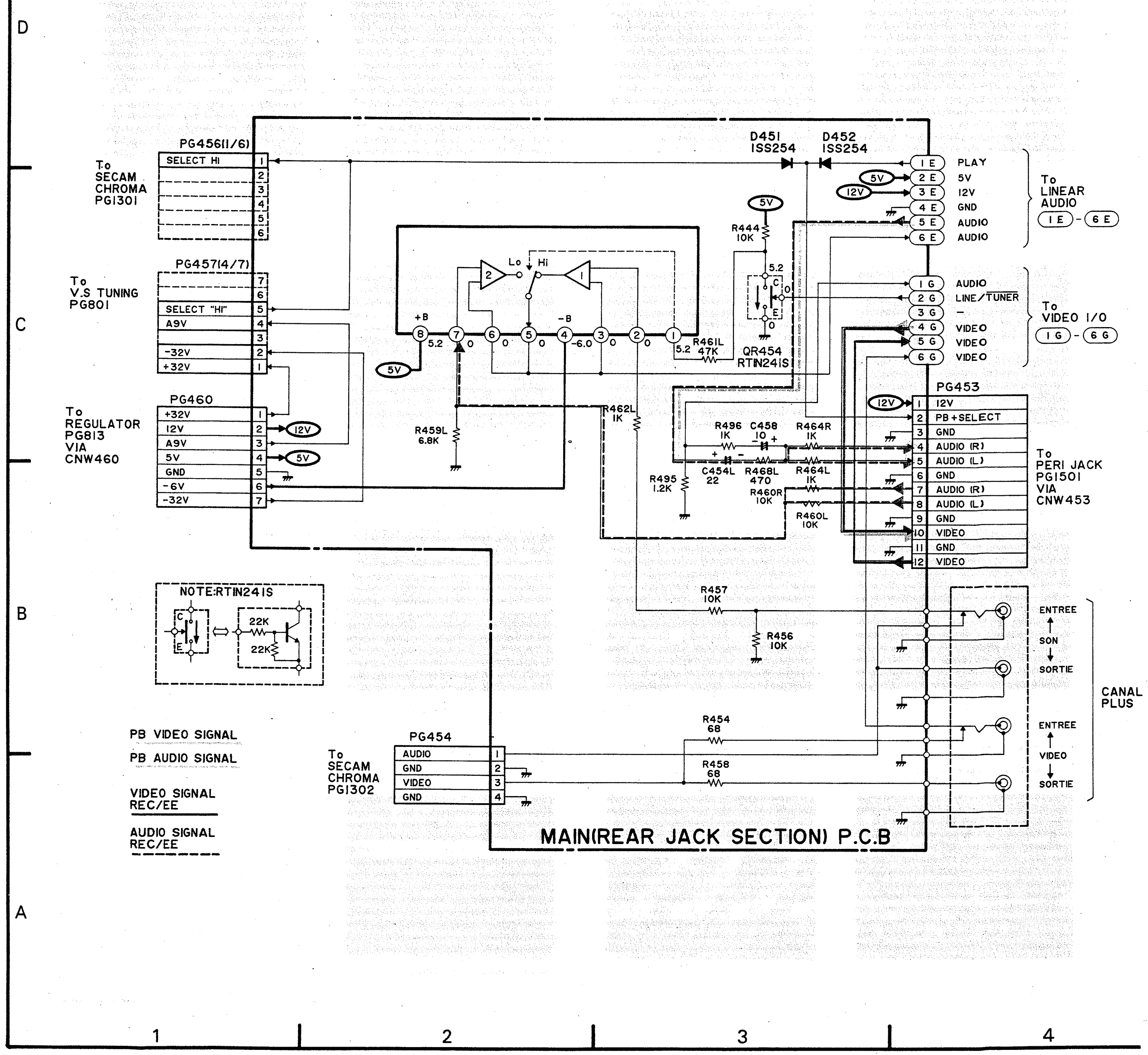


(SW25Hz: 5Vdiv.)

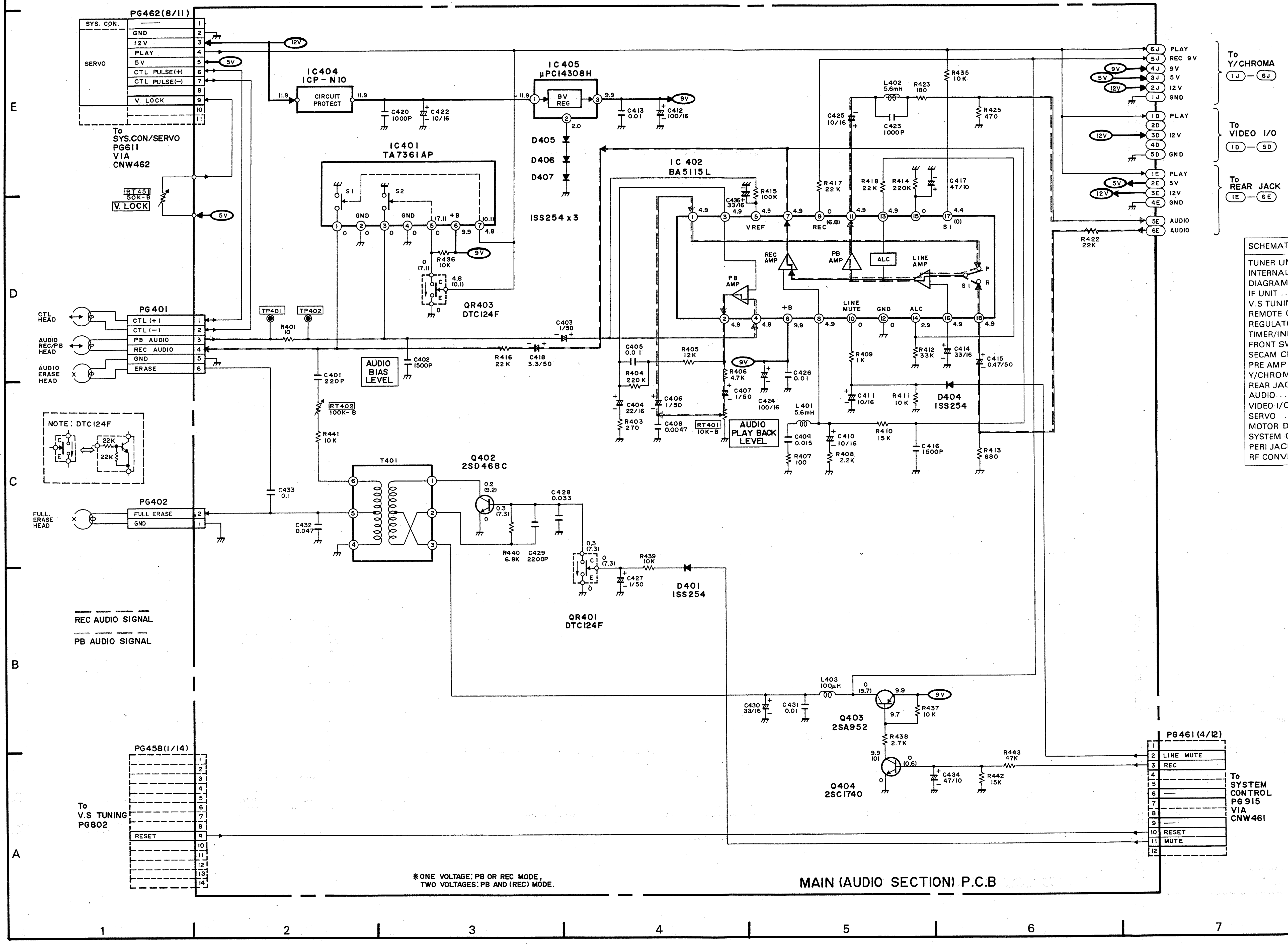
(59) PIN27 REC/PB
50mV/0.5µs. div.



REAR JACK (PRISES ARRIÈRE)


D
C
B
A
1
2
3
4
To SECAM CHROMA PG1301
PG456(1/6)
SELECT HI
To V.S TUNING PG801
PG457(4/7)
SELECT "HI"
A9V
-32V
+32V
To REGULATOR PG813 VIA CNW460
PG460
+32V
12V
A9V
5V
GND
-6V
-32V
12V
5V
+B
-B
Lo
Hi
5.2
0
-6.0
R459L 6.8K
R462L 1K
R461L 47K
QR454 RTN241S
R444 10K
D451 1SS254
D452 1SS254
1 E PLAY
2 E 5V
3 E 12V
4 E GND
5 E AUDIO
6 E AUDIO
To LINEAR AUDIO 1 E - 6 E
1 G AUDIO
2 G LINE/TUNER
3 G –
4 G VIDEO
5 G VIDEO
6 G VIDEO
To VIDEO I/O 1 G - 6 G
PG453
1 12V
2 PB+SELECT
3 GND
4 AUDIO (R)
5 AUDIO (L)
6 GND
7 AUDIO (R)
8 AUDIO (L)
9 GND
10 VIDEO
11 GND
12 VIDEO
To PERI JACK PG1501 VIA CNW453
R496 1K
C458 10
R464R 1K
C454L 22
R468L 470
R464L 1K
R495 1.2K
R460R 10K
R460L 10K
NOTE:RTIN241S
C
E
22K
22K
R457 10K
R456 10K
ENTREE
SON
SORTIE
ENTREE
VIDEO
SORTIE
CANAL PLUS
R454 68
R458 68
To SECAM CHROMA PG1302
PG454
AUDIO
GND
VIDEO
GND
PB VIDEO SIGNAL
PB AUDIO SIGNAL
VIDEO SIGNAL REC/EE
AUDIO SIGNAL REC/EE
MAIN(REAR JACK SECTION) P.C.B

AUDIO (SON)


PG462(8/11)
SYS. CON.
SERVO
GND
12V
PLAY
5V
CTL PULSE(+)
CTL PULSE(−)
V. LOCK
To SYS.CON/SERVO PG611 VIA CNW462
RT451 50K-B
V. LOCK
IC404 ICP-N10
CIRCUIT PROTECT
C420 1000P
C422 10/16
IC405 μPC14308H
9V REG
C413 0.01
C412 100/16
D405
D406
D407
ISS254 x 3
IC401 TA7361AP
S1
S2
GND
+B
R436 10K
QR403 DTC124F
IC 402 BA5115L
R415 100K
C436 33/16
VREF
REC
REC AMP
PB AMP
PB AMP
ALC
LINE AMP
S1
P
R
LINE MUTE
GND
ALC
L402 5.6mH
R423 180
C425 10/16
C423 1000P
R435 10K
R425 470
R417 22K
R418 22K
R414 220K
C417 47/10
R422 22K
PLAY
REC 9V
9V
5V
12V
GND
To Y/CHROMA
1J — 6J
To VIDEO I/O
1D — 5D
To REAR JACK
1E — 6E
AUDIO
AUDIO
CTL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
PG401
CTL(+)
CTL(−)
PB AUDIO
REC AUDIO
GND
ERASE
TP401
TP402
R401 10
C401 220P
RT402 100K-B
R441 10K
AUDIO BIAS LEVEL
C402 1500P
R416 22K
C418 3.3/50
C403 1/50
C405 0.01
R404 220K
R405 12K
C404 22/16
R403 270
C406 1/50
C408 0.0047
RT401 10K-B
R406 4.7K
C407 1/50
C424 100/16
C426 0.01
AUDIO PLAY BACK LEVEL
L401 5.6mH
C409 0.015
R407 100
C410 10/16
R408 2.2K
R409 1K
C411 10/16
R411 10K
R410 15K
C416 1500P
R412 33K
C414 33/16
C415 0.47/50
D404 ISS254
R413 680
NOTE: DTC124F
22K
22K
T401
Q402 2SD468C
C428 0.033
R440 6.8K
C429 2200P
C433 0.1
C432 0.047
PG402
FULL ERASE HEAD
FULL ERASE
GND
QR401 DTC124F
R439 10K
C427 1/50
D401 ISS254
REC AUDIO SIGNAL
PB AUDIO SIGNAL
L403 100μH
C430 33/16
C431 0.01
Q403 2SA952
R437 10K
R438 2.7K
Q404 2SC1740
C434 47/10
R442 15K
R443 47K
PG461(4/12)
LINE MUTE
REC
RESET
MUTE
To SYSTEM CONTROL PG915 VIA CNW461
PG458(1/14)
RESET
To V.S TUNING PG802
※ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND (REC) MODE.
MAIN (AUDIO SECTION) P.C.B
A
B
C
D
E
1
2
3
4
5
6
7
8

SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
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IF UNIT	5-7
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REGULATOR	5-15
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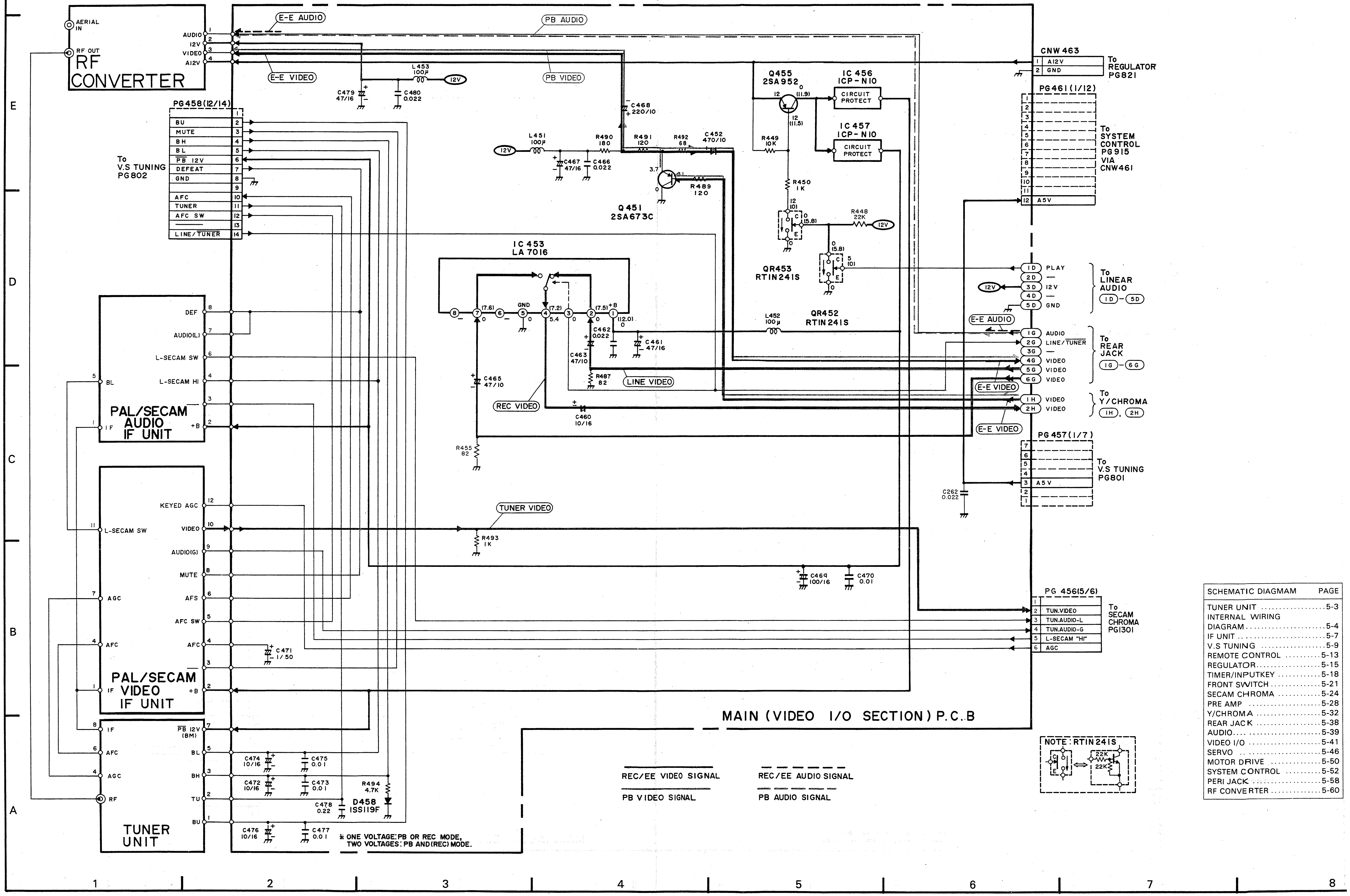
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

VIDEO I/O (E/S VIDEO)


RF CONVERTER
AERIAL IN
RF OUT
AUDIO
12V
VIDEO
A12V
E-E AUDIO
PB AUDIO
E-E VIDEO
PB VIDEO
L453 100μ
C479 47/16
C480 0.022
12V
PG458(12/14)
BU
MUTE
BH
BL
PB 12V
DEFEAT
GND
AFC
TUNER
AFC SW
LINE/TUNER
To V.S TUNING PG802
C468 220/10
L451 100μ
R490 180
R491 120
R492 68
C452 470/10
C467 47/16
C466 0.022
Q451 2SA673C
R489 120
Q455 2SA952
IC 456 ICP-N10
CIRCUIT PROTECT
IC 457 ICP-N10
CIRCUIT PROTECT
R449 10K
R450 1K
R448 22K
QR453 RTIN241S
QR452 RTIN241S
L452 100μ
IC 453 LA 7016
GND
C462 0.022
C461 47/16
C463 47/10
R487 82
C465 47/10
LINE VIDEO
REC VIDEO
C460 10/16
R455 82
CNW 463
A12V
GND
To REGULATOR PG821
PG461(1/12)
A5V
To SYSTEM CONTROL PG915 VIA CNW461
PLAY
12V
GND
To LINEAR AUDIO 1D - 5D
AUDIO
LINE/TUNER
VIDEO
To REAR JACK 1G - 6G
E-E AUDIO
E-E VIDEO
To Y/CHROMA 1H, 2H
PG 457(1/7)
A5V
To V.S TUNING PG801
C262 0.022
PAL/SECAM AUDIO IF UNIT
DEF
AUDIO(L)
L-SECAM SW
L-SECAM HI
BL
IF
+B
PAL/SECAM VIDEO IF UNIT
KEYED AGC
VIDEO
AUDIO(G)
MUTE
AFS
AFC SW
AFC
AGC
TUNER VIDEO
R493 1K
C469 100/16
C470 0.01
C471 1/50
PG 456(5/6)
TUN.VIDEO
TUN.AUDIO-L
TUN.AUDIO-G
L-SECAM "HI"
AGC
To SECAM CHROMA PG1301
MAIN (VIDEO I/O SECTION) P.C.B
TUNER UNIT
PB 12V (BM)
BH
TU
BU
RF
C474 10/16
C475 0.01
C472 10/16
C473 0.01
C476 10/16
C477 0.01
C478 0.22
R494 4.7K
D458 ISS119F
※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.
REC/EE VIDEO SIGNAL
PB VIDEO SIGNAL
REC/EE AUDIO SIGNAL
PB AUDIO SIGNAL
NOTE: RTIN241S
22K
A
B
C
D
E
1
2
3
4
5
6
7
8

SCHEMATIC DIAGMAM	PAGE
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FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
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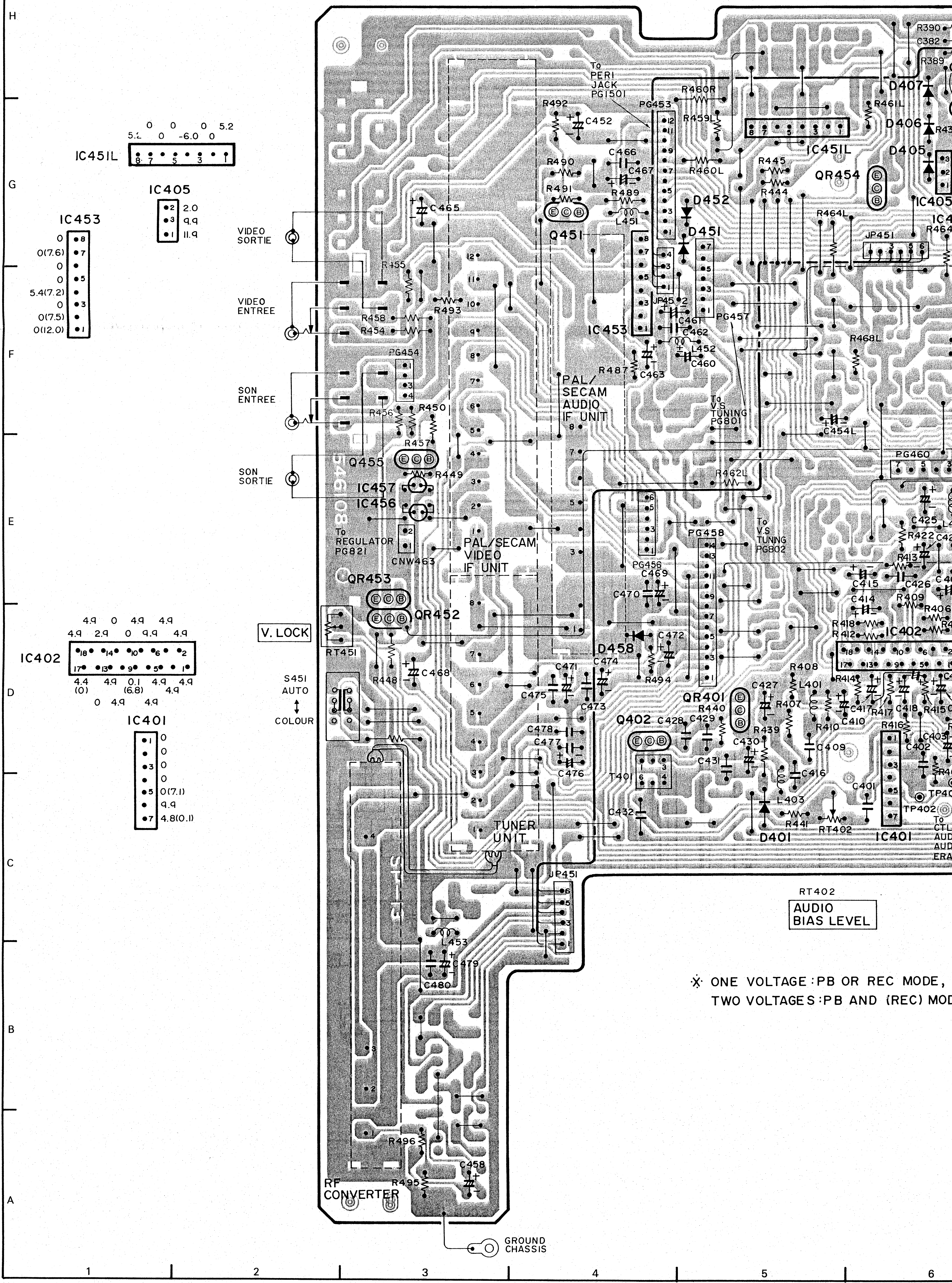
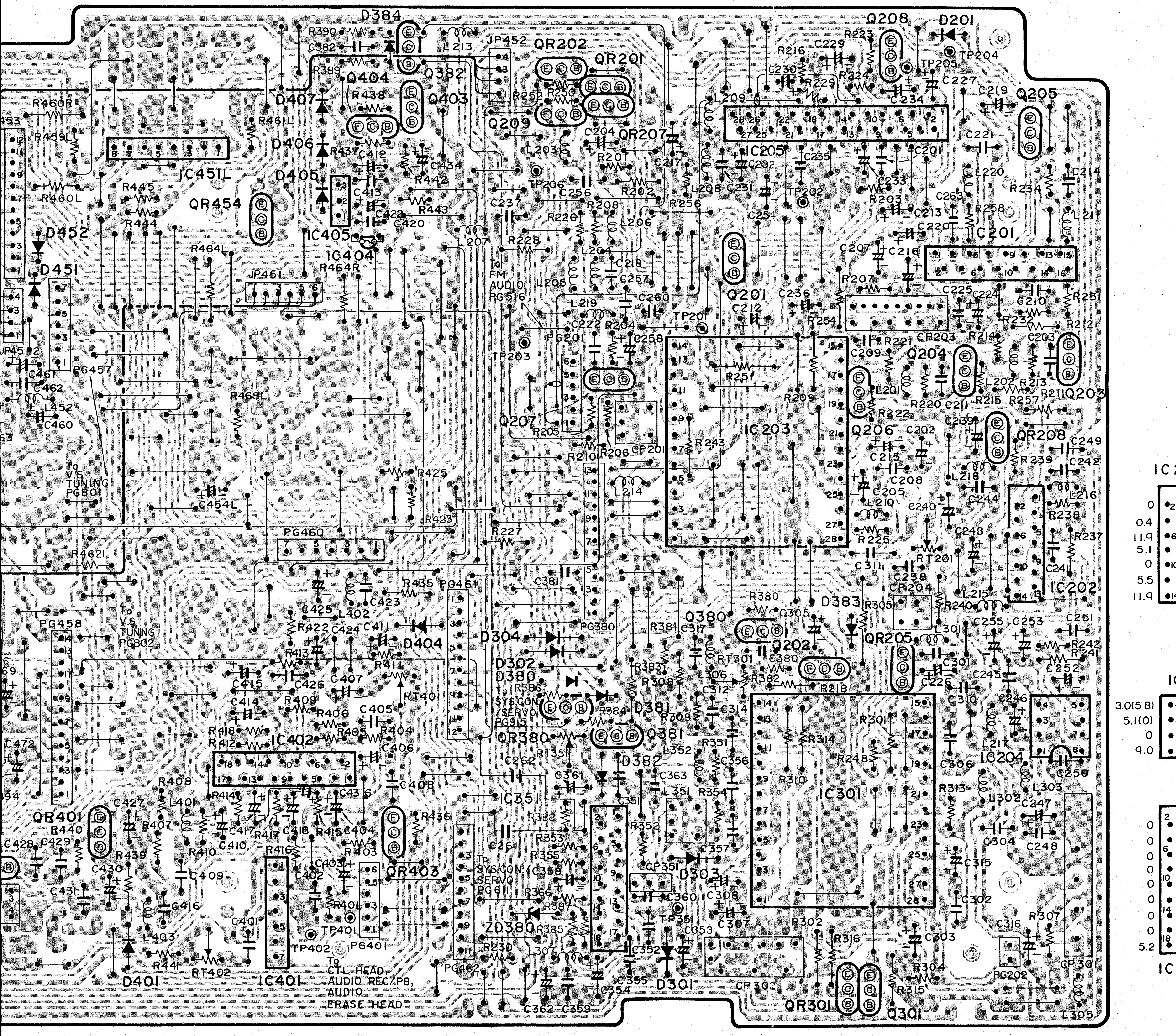
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

MAIN (PRINCIPALE)


H
G
F
E
D
C
B
A
1
2
3
4
5
6
IC451L
5.2 0 0 -6.0 0 0 0 5.2
IC405
2.0
9.9
11.9
IC453
0
0(7.6)
0
0
5.4(7.2)
0
0(7.5)
0(12.0)
IC402
4.9 0 4.9 4.9
4.9 2.9 0 9.9 4.9
4.4 (0) 4.9 0.1 (6.8) 4.9 4.9 4.9
0 4.9 4.9
IC401
0
0
0
0
0(7.1)
9.9
4.8(0.1)
VIDEO SORTIE
VIDEO ENTREE
SON ENTREE
SON SORTIE
V. LOCK
S451 AUTO ↕ COLOUR
RT451
To PERI JACK PG1501
To REGULATOR PG821
CNW463
PAL/SECAM AUDIO IF UNIT
PAL/SECAM VIDEO IF UNIT
TUNER UNIT
RF CONVERTER
To V.S TUNING PG801
To V.S TUNING PG802
GROUND CHASSIS
JP451
PG453
PG454
PG456
PG457
PG458
PG460
Q451
Q455
Q402
QR401
QR452
QR453
QR454
IC453
IC456
IC457
IC401
IC402
IC405
IC451L
D401
D405
D406
D407
D451
D452
D458
L401
L403
L451
L452
L453
T401
TP402
RT402
To CTL AUD AUD ERA
R390
C382
R389
R460R
R461L
R459L
R460L
R445
R444
R464L
R464
R468L
R454L
R462L
R492
C452
C466
C467
R490
R491
R489
C465
R455
R493
R458
R454
R456
R450
R457
R449
C461
C462
C460
R487
C463
C469
C470
C472
R494
C474
C471
C473
C475
C478
C477
C476
C468
R448
C432
C431
C430
C429
C428
R440
R439
C427
R407
R408
R410
C410
C409
C416
R441
C401
C402
C403
R414
C417
R417
C418
R415
R416
C415
C414
C426
C425
R422
R413
R409
R406
R418
R412
R496
R495
C458
C479
C480
SP-13
546108

RT402
AUDIO
BIAS LEVEL

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MOD



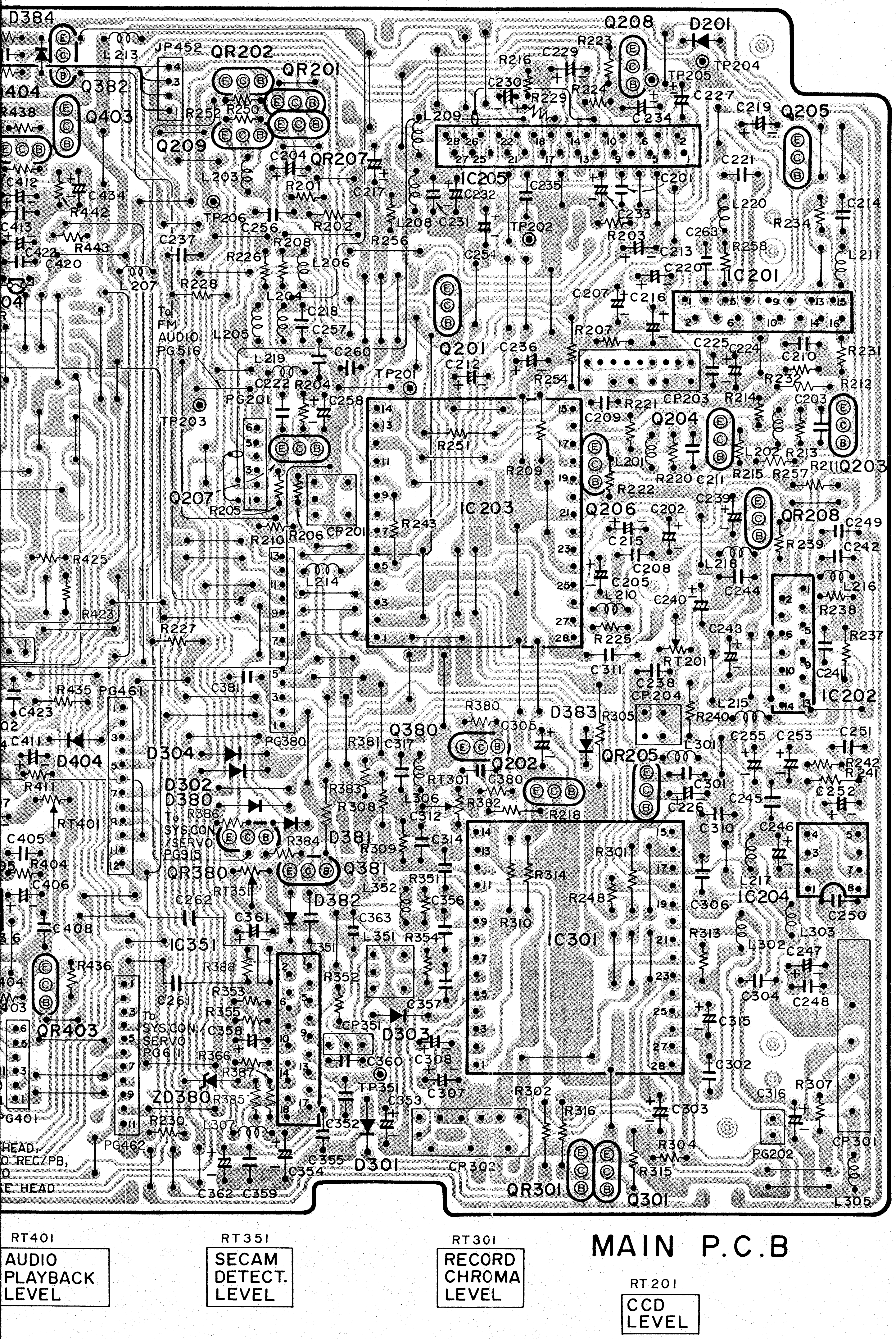
D384
R390
C382
L213
JP452
QR202
QR201
Q208
D201
R223
C229
R216
TP204
TP205
C227
R229
R224
C230
C234
C219
Q205
R389
Q404
Q382
R438
R252
R250
Q403
Q209
QR207
L209
C204
R460R
R461L
R459L
IC451L
D407
D406
R437
D405
C412
C434
R442
C413
C422
C420
R443
L203
R201
TP206
C256
R202
C217
IC205
C232
C231
L208
C235
TP202
C201
C233
R203
C221
L220
R234
C214
C263
C213
R258
C220
IC201
L211
R460L
R445
R444
QR454
D452
IC405
IC404
R464L
R464R
D451
JP451
C237
R228
L207
R226
R208
L206
R256
C254
C207
C216
L204
C218
C257
To FM AUDIO PG516
L205
L219
C260
Q201
C236
C212
R207
C225
C224
C210
R231
R254
R232
R212
TP201
C222
R204
C258
PG201
TP203
CP203
R221
C209
R214
C203
Q204
L201
R213
Q203
R211
R257
R215
C211
L202
R220
R222
PG457
C461
C462
L452
C460
R468L
R251
R209
IC203
Q206
C239
QR208
C249
Q207
R205
R210
R206
CP201
R243
C215
C202
C242
R239
C208
L218
C205
C244
L216
L214
L210
C240
R238
To V.S TUNING PG801
R425
C454L
R423
R227
PG460
R225
C243
R237
RT201
C311
C238
CP204
C241
R462L
IC202
L215
R240
R435
C381
PG461
C423
L402
C425
To V.S TUNING PG802
PG458
R422
C424
C411
D404
R413
R380
C305
D383
R305
Q380
R381
C317
Q202
C380
L301
QR205
C255
C253
C251
R242
R241
PG380
D304
D302
D380
R386
To SYS.CON /SERVO PG915
RT301
L306
C312
R382
R218
R383
R308
R309
C226
C301
C245
C252
C415
C426
C407
R411
RT401
C414
R409
R406
C405
R404
R405
R418
R412
IC402
C406
R384
D381
Q381
C314
R301
R314
R248
C310
C246
C306
L217
C250
IC204
QR380
R351
L352
R351
C356
D382
C262
C361
C363
L351
R354
R310
IC301
R313
L302
L303
C247
C472
R408
C408
R414
C436
IC351
R436
C427
L401
R407
C417
R417
C418
R415
C404
QR401
R440
C428
C429
R410
C410
R416
R403
R439
C430
C409
C402
C403
R401
QR403
C261
R388
R353
R355
To SYS.CON SERVO PG611
C358
R352
CP351
C357
D303
C360
C308
C304
C248
C315
C302
C431
C416
L403
C401
TP401
TP402
PG401
R366
R387
ZD380
R385
TP351
C353
C307
R302
R316
C303
C316
R307
D401
R441
RT402
IC401
To CTL HEAD, AUDIO REC/PB, AUDIO ERASE HEAD
PG462
R230
L307
C355
C352
C354
D301
C362
C359
CP302
QR301
Q301
R304
R315
PG202
CP301
L305
IC
0
0.4
11.9
5.1
0
5.5
11.9
3.0(5.8)
5.1(0)
0
9.0
0
0
0
0
0
0
0
5.2

MAIN P.C.B

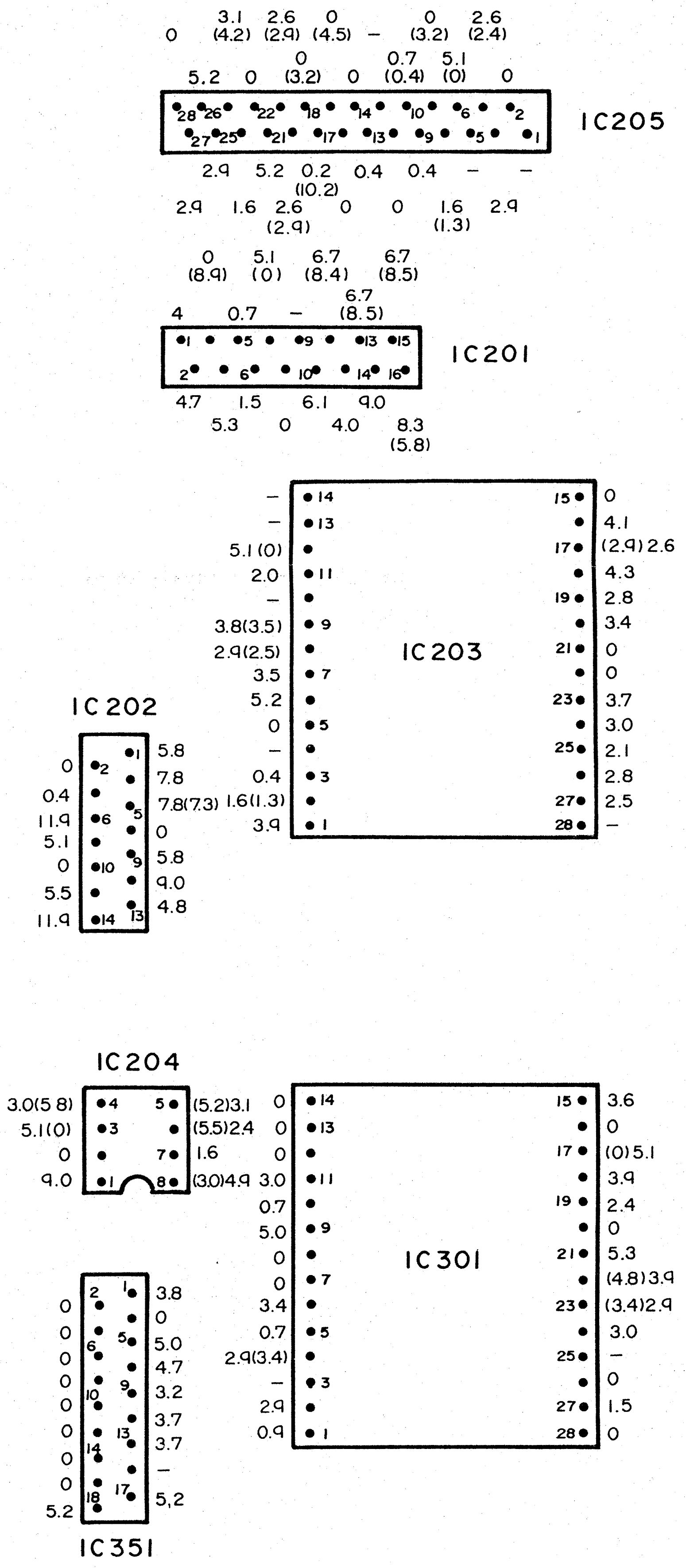
RT402	RT401	RT351	RT301	RT201
AUDIO BIAS LEVEL	AUDIO PLAYBACK LEVEL	SECAM DETECT. LEVEL	RECORD CHROMA LEVEL	CCD LEVEL

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

5 6 7 8 9 10


RT401
AUDIO PLAYBACK LEVEL
RT351
SECAM DETECT. LEVEL
RT301
RECORD CHROMA LEVEL
RT201
CCD LEVEL
IC203
IC301
IC351
IC201
IC205
IC202
IC204
Q208
D201
QR202
QR201
Q209
QR207
Q205
Q201
Q204
Q206
QR208
Q203
Q380
Q202
QR205
D383
D304
D302
D380
D381
Q381
QR380
D382
D303
ZD380
D301
QR301
Q301
D404
QR403
To FM AUDIO PG516
To SYS.CON /SERVO PG915
To SYS.CON SERVO PG611

MAIN P.C.B


IC205
IC201
IC203
IC202
IC204
IC301
IC351

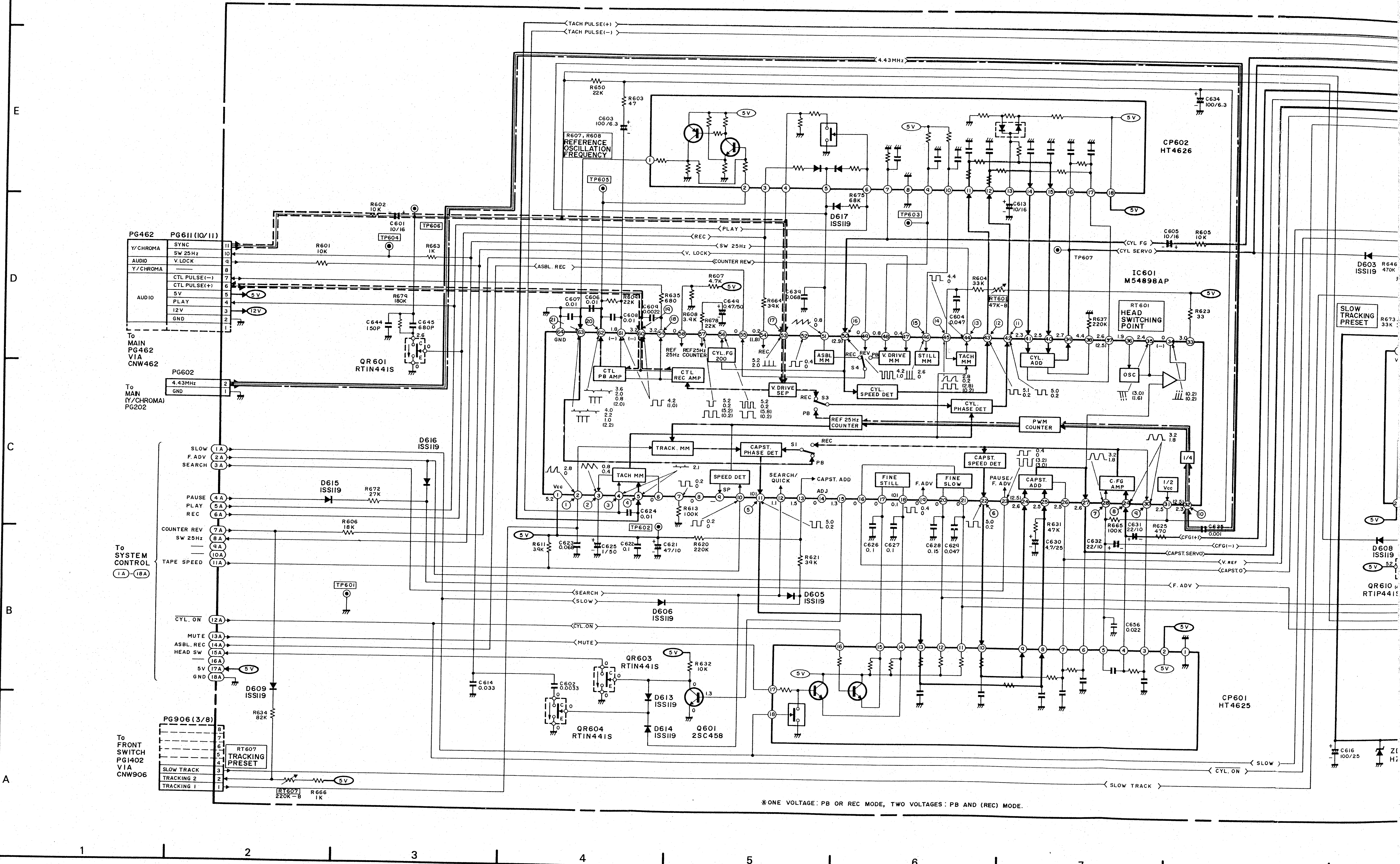
E.

SCHEMATIC DIAGMAM PAGE

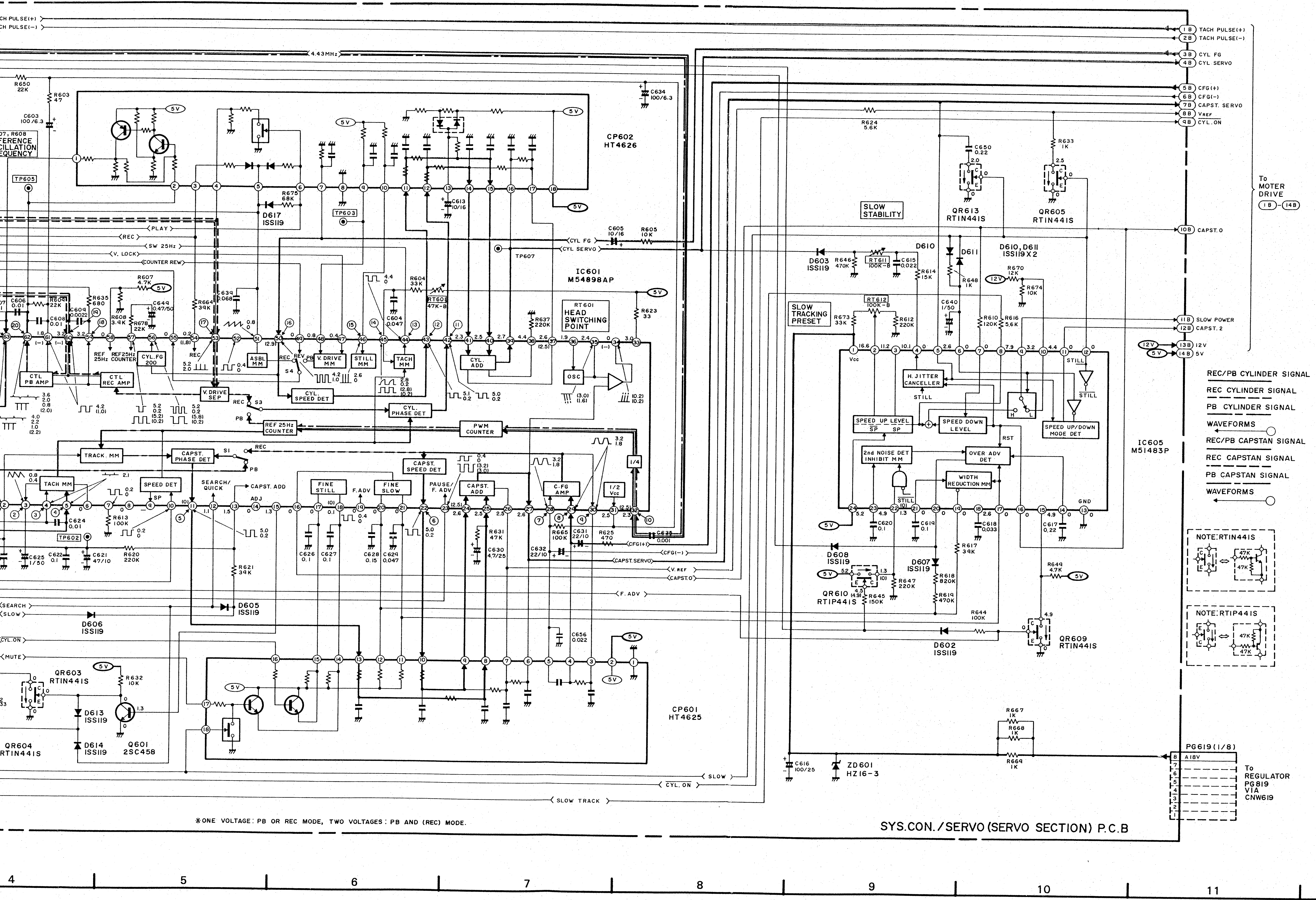
TUNER UNIT 5-3
INTERNAL WIRING DIAGRAM 5-4
IF UNIT 5-7
V.S TUNING 5-9
REMOTE CONTROL 5-13
REGULATOR 5-15
TIMER/INPUTKEY 5-18
FRONT SWITCH 5-21
SECAM CHROMA 5-24
PRE AMP 5-28
Y/CHROMA 5-32
REAR JACK 5-38
AUDIO 5-39
VIDEO I/O 5-41
SERVO 5-46
MOTOR DRIVE 5-50
SYSTEM CONTROL 5-52
PERI JACK 5-58
RF CONVERTER 5-60

7 8 9 10 11

SERVO (ASSERVISSEMENT)


IC601
M54898AP
CP602
HT4626
CP601
HT4625
RT601 HEAD SWITCHING POINT
R607, R608 REFERENCE OSCILLATION FREQUENCY
PG462
PG611(10/11)
SYNC
SW 25Hz
V.LOCK
CTL PULSE(−)
CTL PULSE(+)
5V
PLAY
12V
GND
Y/CHROMA
AUDIO
To MAIN PG462 VIA CNW462
PG602
4.43MHz
To MAIN (Y/CHROMA) PG202
To SYSTEM CONTROL (1A)-(18A)
SLOW
F. ADV
SEARCH
PAUSE
REC
COUNTER REV
TAPE SPEED
CYL. ON
MUTE
ASBL. REC
HEAD SW
PG906(3/8)
To FRONT SWITCH PG1402 VIA CNW906
SLOW TRACK
TRACKING 2
TRACKING 1
RT607 TRACKING PRESET
TACH PULSE(+)
TACH PULSE(−)
4.43MHz
CYL FG
CYL SERVO
CFG(+)
CFG(−)
CAPST. SERVO
V. REF
CAPST.O
CTL PB AMP
CTL REC AMP
REF 25Hz COUNTER
CYL. FG 200
V. DRIVE SEP
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL. ADD
CYL. SPEED DET
CYL. PHASE DET
PWM COUNTER
OSC
TRACK. MM
CAPST. PHASE DET
SPEED DET
CAPST. SPEED DET
FINE STILL
FINE SLOW
CAPST. ADD
C. FG AMP
1/4
1/2 Vcc
SEARCH/ QUICK
CAPST. ADD
PAUSE/ F. ADV
QR601 RTIN441S
QR603 RTIN441S
QR604 RTIN441S
Q601 2SC458
D605 ISS119
D606 ISS119
D609 ISS119
D613 ISS119
D614 ISS119
D615 ISS119
D616 ISS119
D617 ISS119
D603 ISS119
D608 ISS119
QR610 RTIP441S
SLOW TRACKING PRESET
TP601
TP602
TP603
TP604
TP605
TP606
TP607

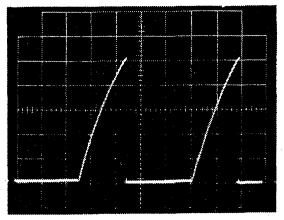
※ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.


TACH PULSE(+)
TACH PULSE(−)
CYL FG
CYL SERVO
CFG(+)
CFG(−)
CAPST. SERVO
VREF
CYL.ON
CAPST.0
SLOW POWER
CAPST. 2
12V
5V
To MOTER DRIVE (1B)-(14B)
CP602 HT4626
IC601 M54898AP
CP601 HT4625
IC605 M51483P
REFERENCE OSCILLATION FREQUENCY
HEAD SWITCHING POINT
SLOW STABILITY
SLOW TRACKING PRESET
CTL PB AMP
CTL REC AMP
CYL.FG 200
V.DRIVE SEP
V.DRIVE MM
STILL MM
TACH MM
ASBL MM
CYL. ADD
OSC
CYL. SPEED DET
CYL. PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK. MM
CAPST. PHASE DET
CAPST. SPEED DET
CAPST. ADD
FINE STILL
FINE SLOW
C.FG AMP
1/2 Vcc
1/4
H. JITTER CANCELLER
SPEED UP LEVEL
SPEED DOWN LEVEL
SPEED UP/DOWN MODE DET
2nd NOISE DET INHIBIT MM
OVER ADV DET
WIDTH REDUCTION MM
QR613 RTIN441S
QR605 RTIN441S
QR610 RTIP441S
QR609 RTIN441S
QR603 RTIN441S
QR604 RTIN441S
Q601 2SC458
D603 ISS119
D610, D611 ISS119X2
D617 ISS119
D605 ISS119
D606 ISS119
D607 ISS119
D608 ISS119
D602 ISS119
D613 ISS119
D614 ISS119
ZD601 HZ16-3
RT601
RT611 100K-B
RT612 100K-B
PG619(1/8)
A18V
To REGULATOR PG819 VIA CNW619
REC/PB CYLINDER SIGNAL
REC CYLINDER SIGNAL
PB CYLINDER SIGNAL
WAVEFORMS
REC/PB CAPSTAN SIGNAL
REC CAPSTAN SIGNAL
PB CAPSTAN SIGNAL
WAVEFORMS
NOTE: RTIN441S
NOTE: RTIP441S
PLAY
REC
SW 25Hz
V. LOCK
COUNTER REW
SEARCH
SLOW
CYL.ON
MUTE
SLOW TRACK
F. ADV
SEARCH/QUICK
PAUSE/F. ADV
TP602
TP603
TP605
TP607
※ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.
SYS.CON./SERVO (SERVO SECTION) P.C.B
4
5
6
7
8
9
10
11

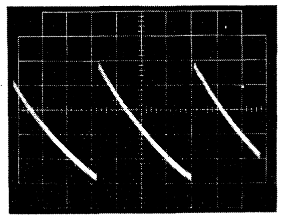
SERVO CIRCUIT WAVEFORMS
(OSCILLOGRAMMES DE CIRCUIT D'ASSERVISSEMENT)

[IC601] **(REC: Colour bar Video in/PB: Alignment tape)**

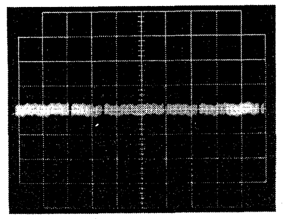
① PIN2 REC/PB
0.5V/10ms. div.



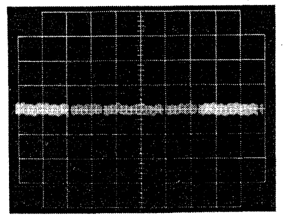
② PIN3 REC/PB
0.1V/10ms. div.



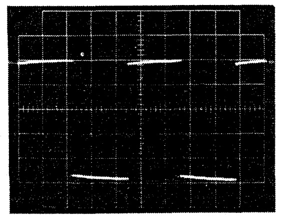
③ PIN4 REC/PB
50mV/10ms. div.



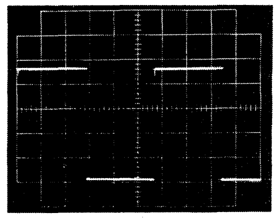
④ PIN5 REC/PB
50mV/10ms. div.



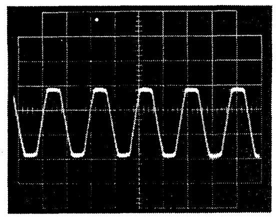
⑤ PIN11 REC/PB
1V/0.2ms. div.



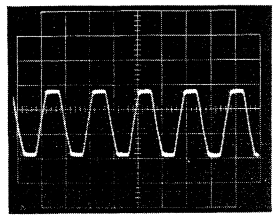
⑥ PIN22 REC/PB
1V/20μs. div.



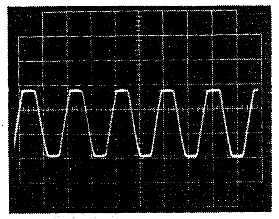
⑦ PIN28 REC/PB
0.5V/1ms. div.



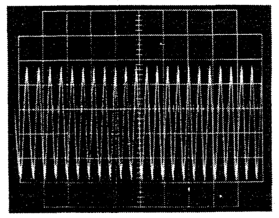
⑧ PIN29 REC/PB
0.5V/1ms. div.



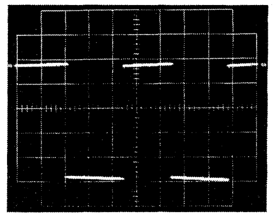
⑨ PIN30 REC/PB
1V/1ms. div.



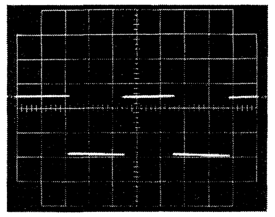
⑩ PIN32 REC/PB
50mV/0.5μs. div.



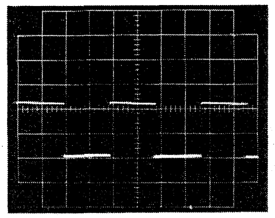
⑪ PIN42 REC/PB
1V/0.1ms. div.



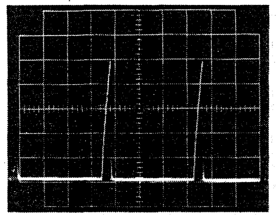
⑫ PIN43 REC/PB
2V/0.1ms. div.



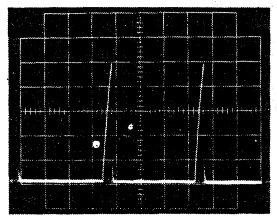
⑬ PIN44 REC/PB
2V/10ms. div.



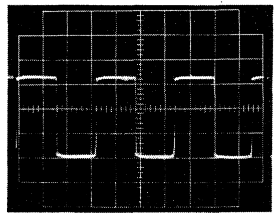
⑭ PIN45 REC/PB
0.5V/5ms. div.



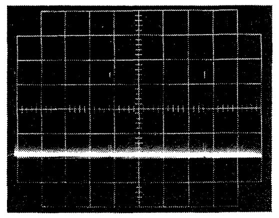
⑮ PIN46 REC/PB
0.5V/5ms. div.



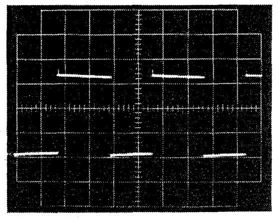
⑯ PIN50 REC/PB
1V/1ms. div.



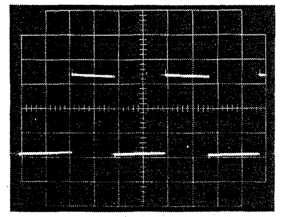
⑰ PIN53 REC/PB
1V/5ms. div.



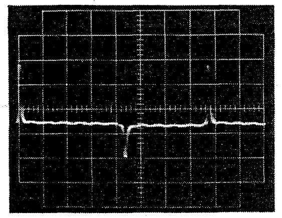
⑱ PIN59 REC
1V/10ms. div.



⑲ PIN60 REC
1V/10ms. div.

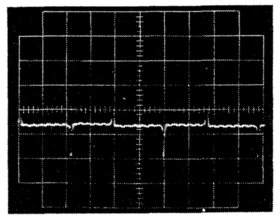


⑳ PIN62 PB
1V/5ms. div.



[IC601]

㉑ PIN63 PB
1V/10ms. div.



SCHEMATIC DIAGMAM	PAGE
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INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
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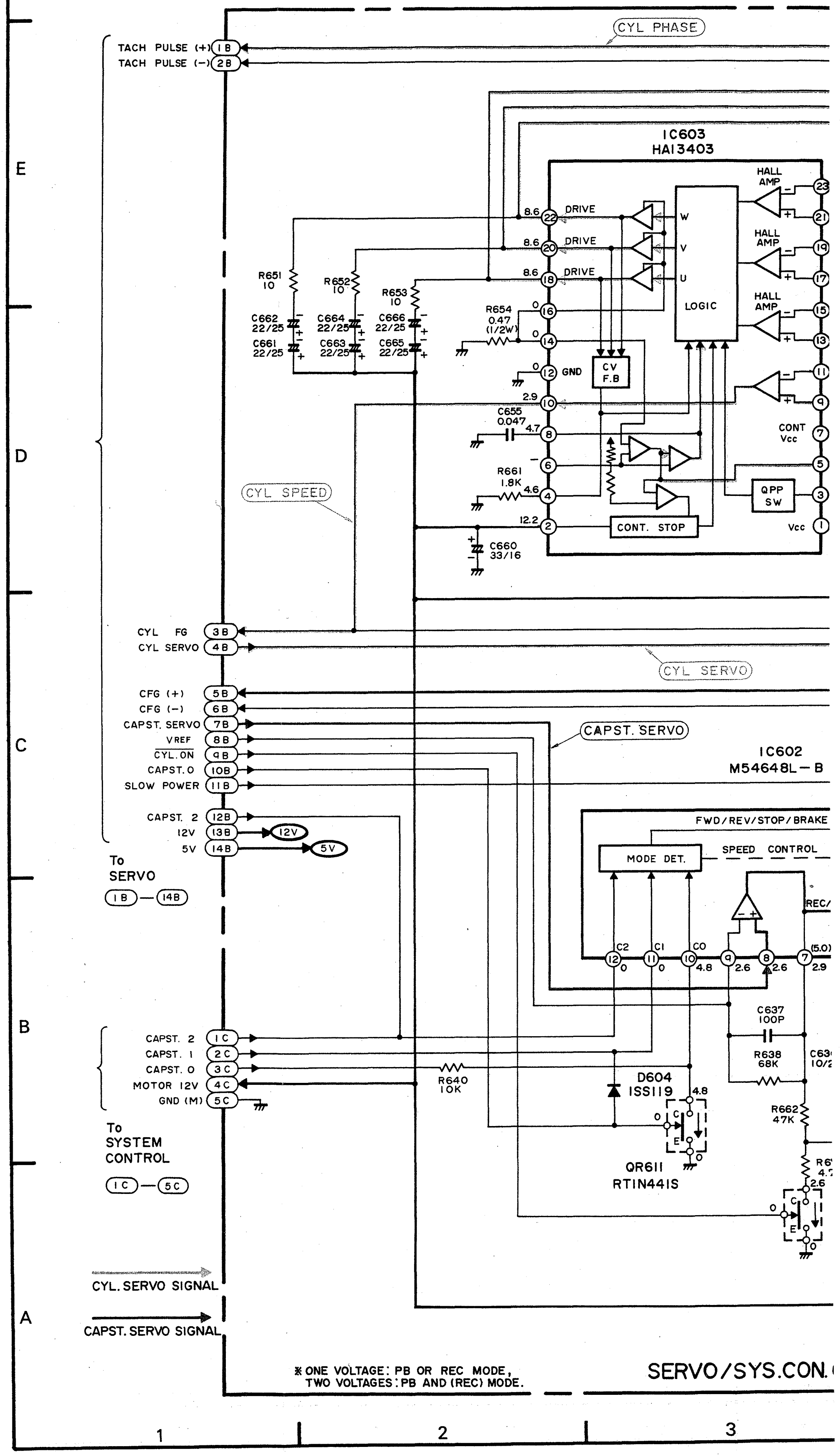
MOTOR DRIVE (EXHITATION MOTEUR)

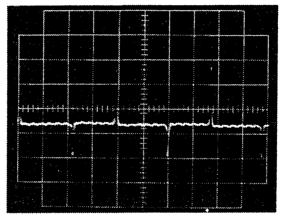

CYL PHASE
TACH PULSE (+) 1B
TACH PULSE (−) 2B
IC603
HA13403
DRIVE
HALL AMP
LOGIC
W
V
U
CV F.B
GND
CONT Vcc
QPP SW
CONT. STOP
Vcc
R651 10
R652 10
R653 10
R654 0.47 (1/2W)
C662 22/25
C661 22/25
C664 22/25
C663 22/25
C666 22/25
C665 22/25
C655 0.047
R661 1.8K
C660 33/16
CYL SPEED
CYL FG 3B
CYL SERVO 4B
CYL SERVO
CFG (+) 5B
CFG (−) 6B
CAPST. SERVO 7B
VREF 8B
CYL.ON 9B
CAPST. O 10B
SLOW POWER 11B
CAPST. SERVO
IC602
M54648L−B
CAPST. 2 12B
12V 13B
5V 14B
To SERVO
1B — 14B
FWD/REV/STOP/BRAKE
MODE DET.
SPEED CONTROL
REC/
C2
C1
C0
C637 100P
R638 68K
CAPST. 2 1C
CAPST. 1 2C
CAPST. O 3C
MOTOR 12V 4C
GND (M) 5C
R640 10K
D604 ISS119
QR611 RTIN441S
R662 47K
To SYSTEM CONTROL
1C — 5C
CYL. SERVO SIGNAL
CAPST. SERVO SIGNAL
SERVO/SYS.CON.
E
D
C
B
A
1
2
3

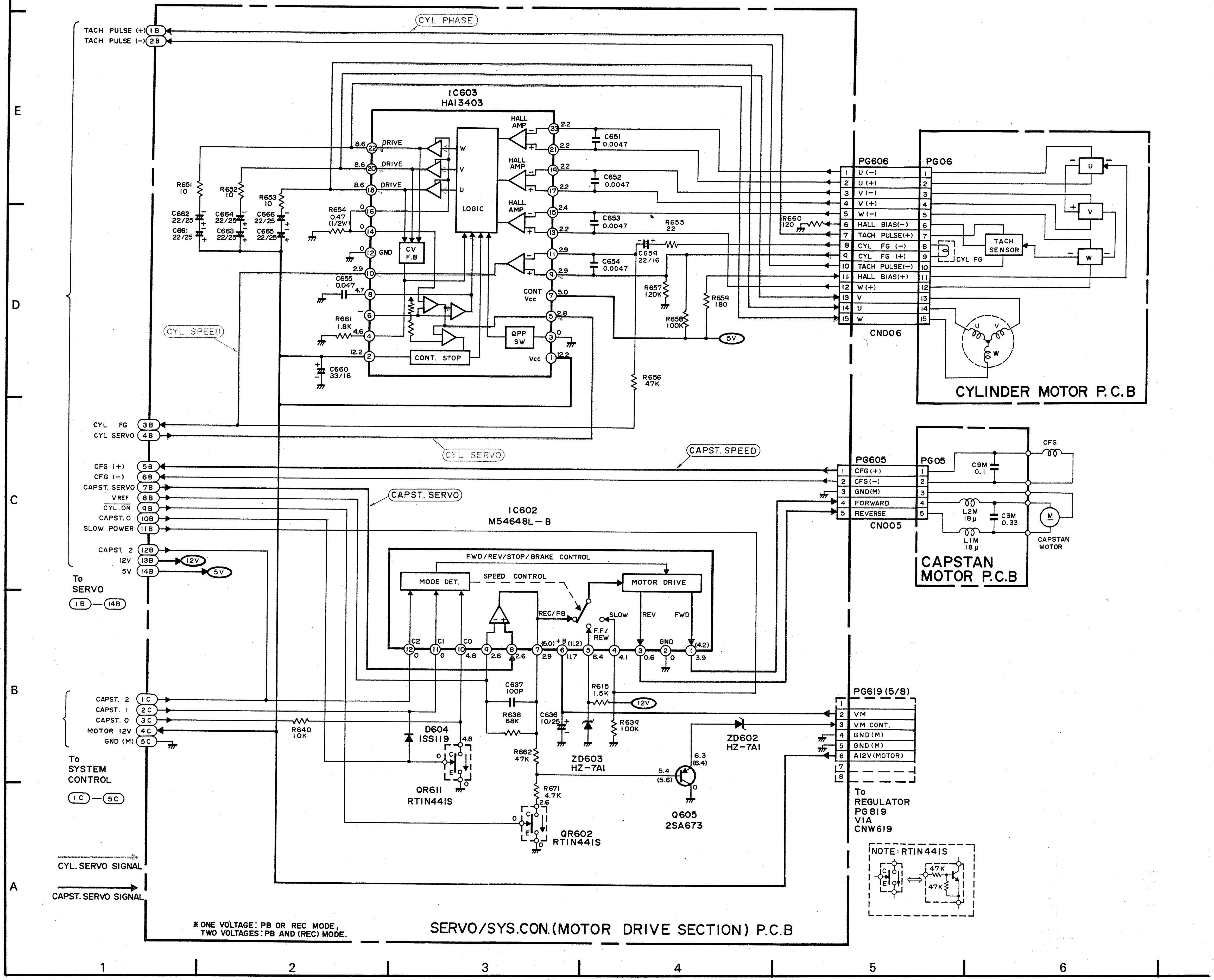
※ ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND (REC) MODE.

MOTOR DRIVE (EXHITATION MOTEUR)

[IC601]

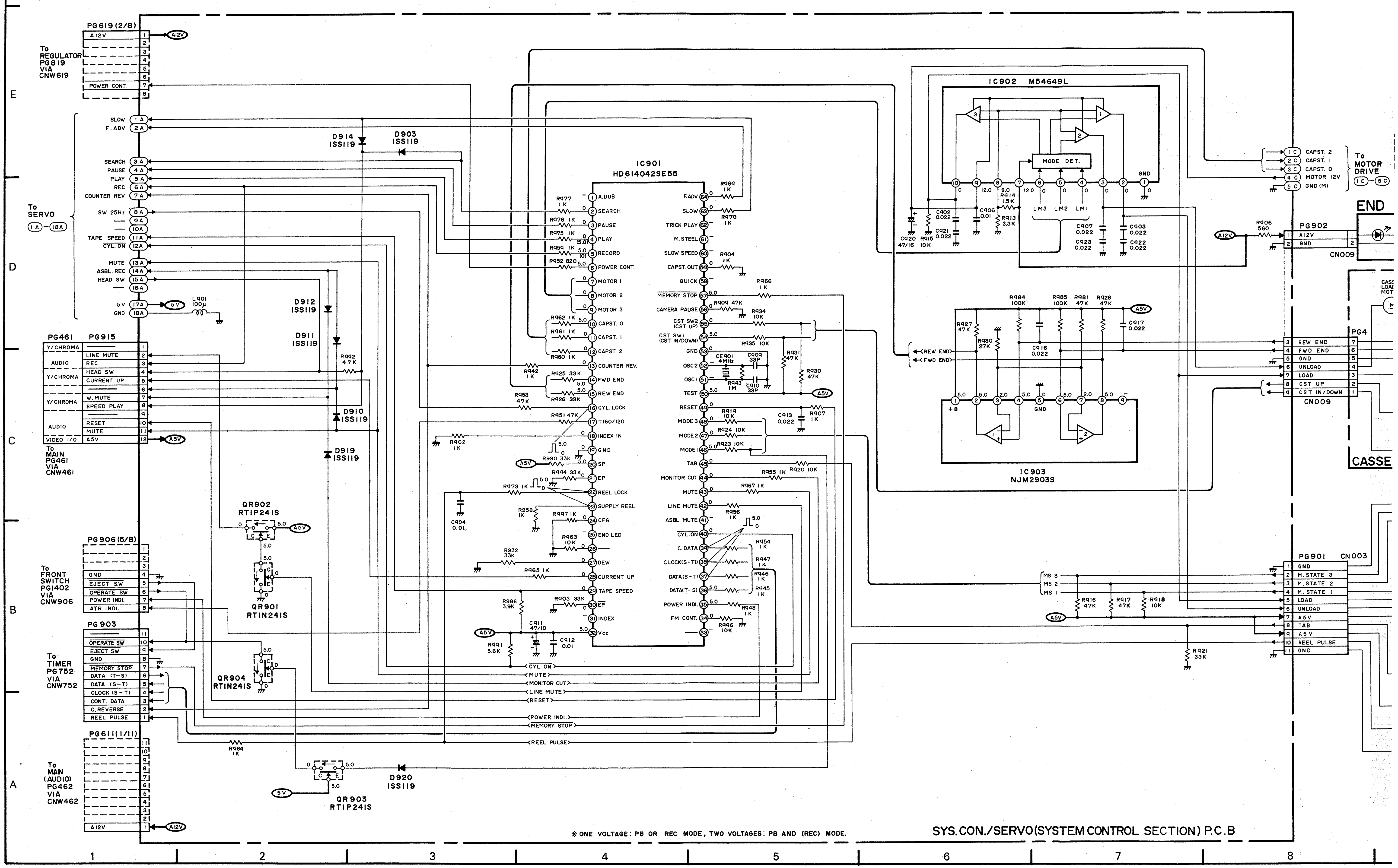
㉑ PIN63 PB
1V/10ms. div.





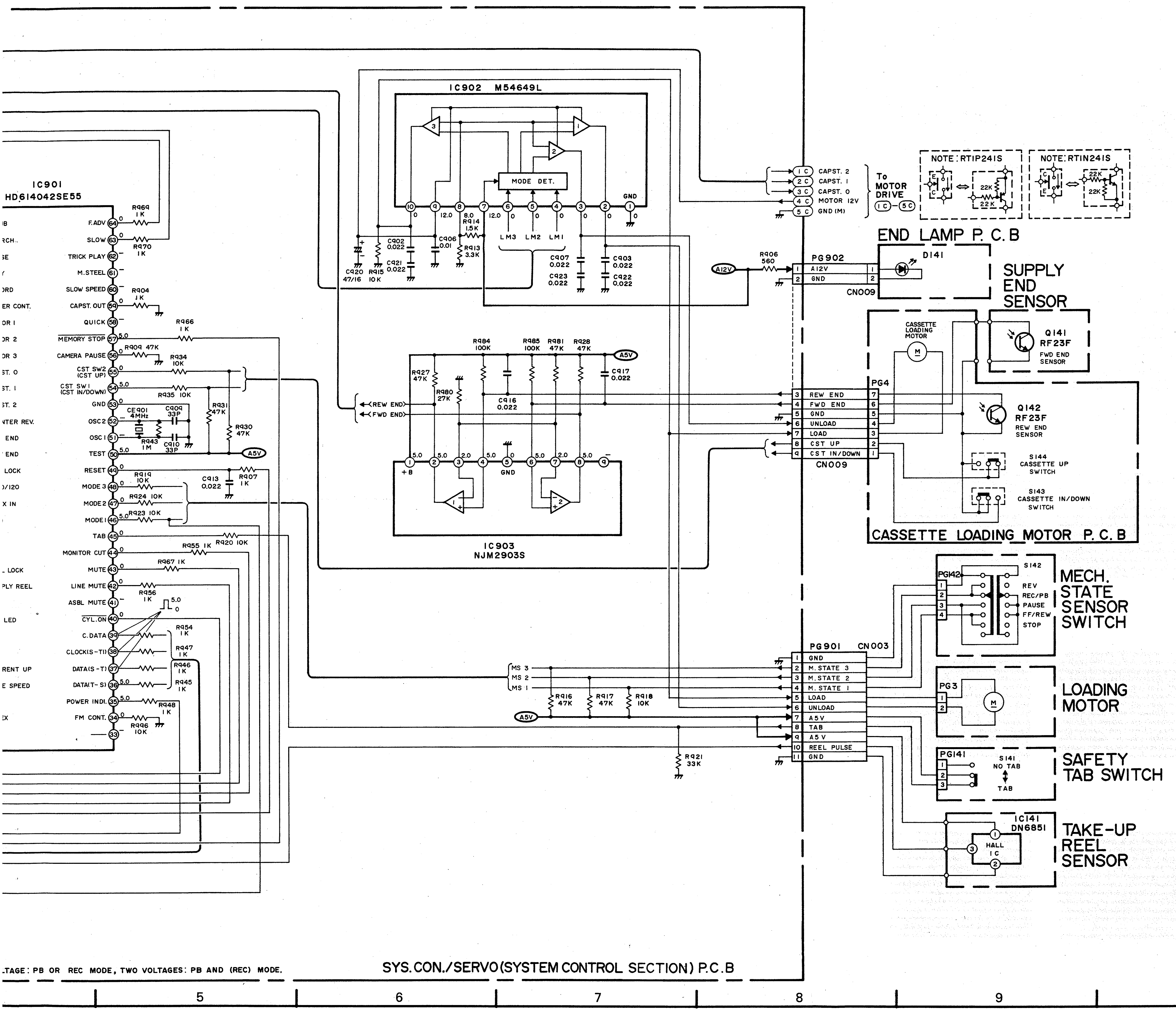
SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

SYSTEM CONTROL (COMMANDE DE SYSTEM)


PG619 (2/8)
A12V
POWER CONT.
To REGULATOR PG819 VIA CNW619
To SERVO (1A)-(18A)
SLOW
F.ADV
SEARCH
PAUSE
PLAY
REC
COUNTER REV
SW 25Hz
TAPE SPEED
CYL. ON
MUTE
ASBL. REC
HEAD SW
5V
GND
L901 100μ
PG461
PG915
Y/CHROMA
AUDIO
VIDEO I/O
LINE MUTE
REC
HEAD SW
CURRENT UP
W. MUTE
SPEED PLAY
RESET
MUTE
A5V
To MAIN PG461 VIA CNW461
D914 ISS119
D903 ISS119
D912 ISS119
D911 ISS119
D910 ISS119
D919 ISS119
R942 4.7K
QR902 RTIP241S
QR901 RTIN241S
QR904 RTIN241S
QR903 RTIP241S
D920 ISS119
PG906 (5/8)
GND
EJECT SW
OPERATE SW
POWER INDI.
ATR INDI.
To FRONT SWITCH PG1402 VIA CNW906
PG903
OPERATE SW
EJECT SW
GND
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
CONT. DATA
C. REVERSE
REEL PULSE
To TIMER PG752 VIA CNW752
PG611 (1/11)
A12V
To MAIN (AUDIO) PG462 VIA CNW462
R964 1K
IC901
HD614042SE55
A.DUB
SEARCH
PAUSE
PLAY
RECORD
POWER CONT.
MOTOR 1
MOTOR 2
MOTOR 3
CAPST. 0
CAPST. 1
CAPST. 2
COUNTER REV.
FWD END
REW END
CYL. LOCK
T160/120
INDEX IN
GND
SP
EP
REEL LOCK
SUPPLY REEL
CFG
END LED
DEW
CURRENT UP
TAPE SPEED
EP
INDEX
Vcc
F.ADV
SLOW
TRICK PLAY
M.STEEL
SLOW SPEED
CAPST. OUT
QUICK
MEMORY STOP
CAMERA PAUSE
CST SW2 (CST UP)
CST SW1 (CST IN/DOWN)
GND
OSC2
OSC1
TEST
RESET
MODE 3
MODE 2
MODE 1
TAB
MONITOR CUT
MUTE
LINE MUTE
ASBL MUTE
CYL. ON
C. DATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT.
CE901 4MHz
C909 33P
C910 33P
R943 1M
C911 47/10
C912 0.01
C904 0.01
R991 5.6K
R986 3.9K
CYL. ON
MUTE
MONITOR CUT
LINE MUTE
RESET
POWER INDI.
MEMORY STOP
REEL PULSE
IC902 M54649L
MODE DET.
LM3 LM2 LM1
GND
C902 0.022
C906 0.01
C921 0.022
C920 47/16
R915 10K
R914 1.5K
R913 3.3K
C907 0.022
C923 0.022
C903 0.022
C922 0.022
To MOTOR DRIVE (1C)-(5C)
CAPST. 2
CAPST. 1
CAPST. 0
MOTOR 12V
GND (M)
END
R906 560
PG902
A12V
GND
CN009
R984 100K
R985 100K
R981 47K
R928 47K
R927 47K
R980 27K
C916 0.022
C917 0.022
REW END
FWD END
IC903 NJM2903S
PG4
REW END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN009
CASSE
MS 3
MS 2
MS 1
R916 47K
R917 47K
R918 10K
R921 33K
PG901
CN003
GND
M.STATE 3
M.STATE 2
M.STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
1 2 3 4 5 6 7 8
E D C B A

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

SYS.CON./SERVO(SYSTEM CONTROL SECTION) P.C.B


IC901
HD614042SE55
F.ADV 64
SLOW 63
TRICK PLAY 62
M.STEEL 61
SLOW SPEED 60
CAPST. OUT 59
QUICK 58
MEMORY STOP 57
CAMERA PAUSE 56
CST SW2 (CST UP) 55
CST SW1 (CST IN/DOWN) 54
GND 53
OSC2 52
OSC1 51
TEST 50
RESET 49
MODE3 48
MODE2 47
MODE1 46
TAB 45
MONITOR CUT 44
MUTE 43
LINE MUTE 42
ASBL MUTE 41
CYL.ON 40
C.DATA 39
CLOCK(S-T) 38
DATA(S-T) 37
DATA(T-S) 36
POWER INDI. 35
FM CONT. 34
33
R969 1K
R970 1K
R904 1K
R966 1K
R909 47K
R934 10K
R935 10K
R931 47K
R930 47K
CE901 4MHz
C909 33P
C910 33P
R943 1M
R919 10K
R907 1K
C913 0.022
R924 10K
R923 10K
R955 1K
R920 10K
R967 1K
R956 1K
R954 1K
R947 1K
R946 1K
R945 1K
R948 1K
R996 10K
A5V
IC902 M54649L
MODE DET.
LM3 LM2 LM1
GND
C920 47/16
R915 10K
C902 0.022
C921 0.022
C906 0.01
R914 1.5K
R913 3.3K
C907 0.022
C923 0.022
C903 0.022
C922 0.022
CAPST. 2
CAPST. 1
CAPST. 0
MOTOR 12V
GND (M)
To MOTOR DRIVE
1C–5C
NOTE: RTIP241S
NOTE: RTIN241S
22K
END LAMP P. C. B
D141
R906 560
A12V
PG902
A12V
GND
CN009
SUPPLY END SENSOR
Q141 RF23F
FWD END SENSOR
CASSETTE LOADING MOTOR
PG4
REW END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN009
Q142 RF23F
REW END SENSOR
S144 CASSETTE UP SWITCH
S143 CASSETTE IN/DOWN SWITCH
CASSETTE LOADING MOTOR P. C. B
R984 100K
R985 100K
R981 47K
R928 47K
R927 47K
R980 27K
C917 0.022
C916 0.022
+B
IC903
NJM2903S
MECH. STATE SENSOR SWITCH
PG142
S142
REV
REC/PB
PAUSE
FF/REW
STOP
PG901 CN003
GND
M.STATE 3
M.STATE 2
M.STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
MS 3
MS 2
MS 1
R916 47K
R917 47K
R918 10K
R921 33K
LOADING MOTOR
PG3
SAFETY TAB SWITCH
PG141
S141
NO TAB
TAB
TAKE-UP REEL SENSOR
IC141 DN6851
HALL IC
SYS.CON./SERVO (SYSTEM CONTROL SECTION) P.C.B
...TAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.
5
6
7
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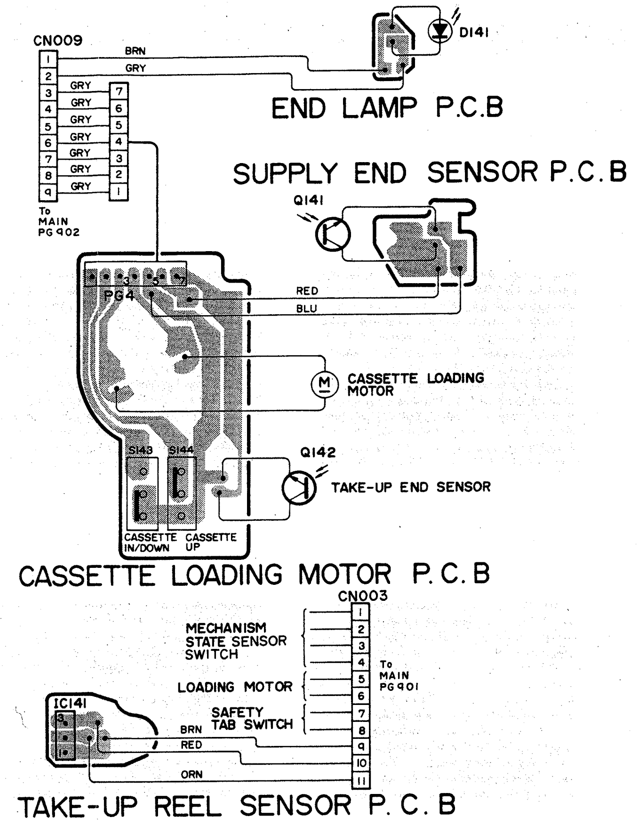
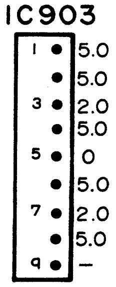
9
10
11

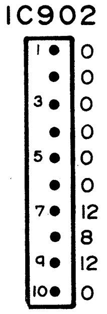

CN009
BRN
GRY
To MAIN PG902
D141
END LAMP P.C.B
SUPPLY END SENSOR P.C.B
Q141
PG4
RED
BLU
CASSETTE LOADING MOTOR
S143
S144
Q142
TAKE-UP END SENSOR
CASSETTE IN/DOWN
CASSETTE UP
CASSETTE LOADING MOTOR P. C. B
CN003
MECHANISM STATE SENSOR SWITCH
LOADING MOTOR
SAFETY TAB SWITCH
To MAIN PG901
IC141
BRN
RED
ORN
TAKE-UP REEL SENSOR P. C. B

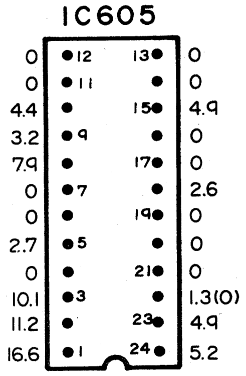
SCHEMATIC DIAGMAM PAGE

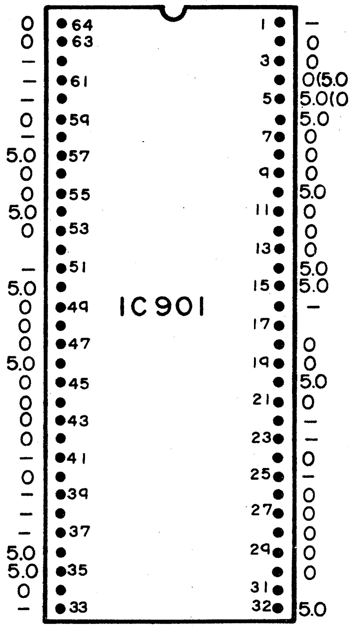
TUNER UNIT 5-3
INTERNAL WIRING
DIAGRAM....................5-4
IF UNIT....................5-7
V.S TUNING 5-9
REMOTE CONTROL 5-13
REGULATOR....................5-15
TIMER/INPUTKEY 5-18
FRONT SWITCH 5-21
SECAM CHROMA 5-24
PRE AMP 5-28
Y/CHROMA 5-32
REAR JACK 5-38
AUDIO....................5-39
VIDEO I/O 5-41
SERVO 5-46
MOTOR DRIVE 5-50
SYSTEM CONTROL 5-52
PERI JACK 5-58
RF CONVERTER 5-60

SYSTEM CONTROL/SERVO (SYSTEMSTEUERUNG/SERVO)


IC903
1 5.0
5.0
3 2.0
5.0
5 0
5.0
7 2.0
5.0
9 —

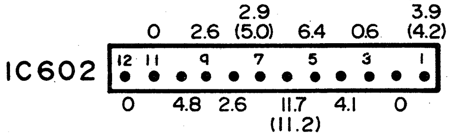

IC902
1 0
0
3 0
0
5 0
0
7 12
8
9 12
10 0

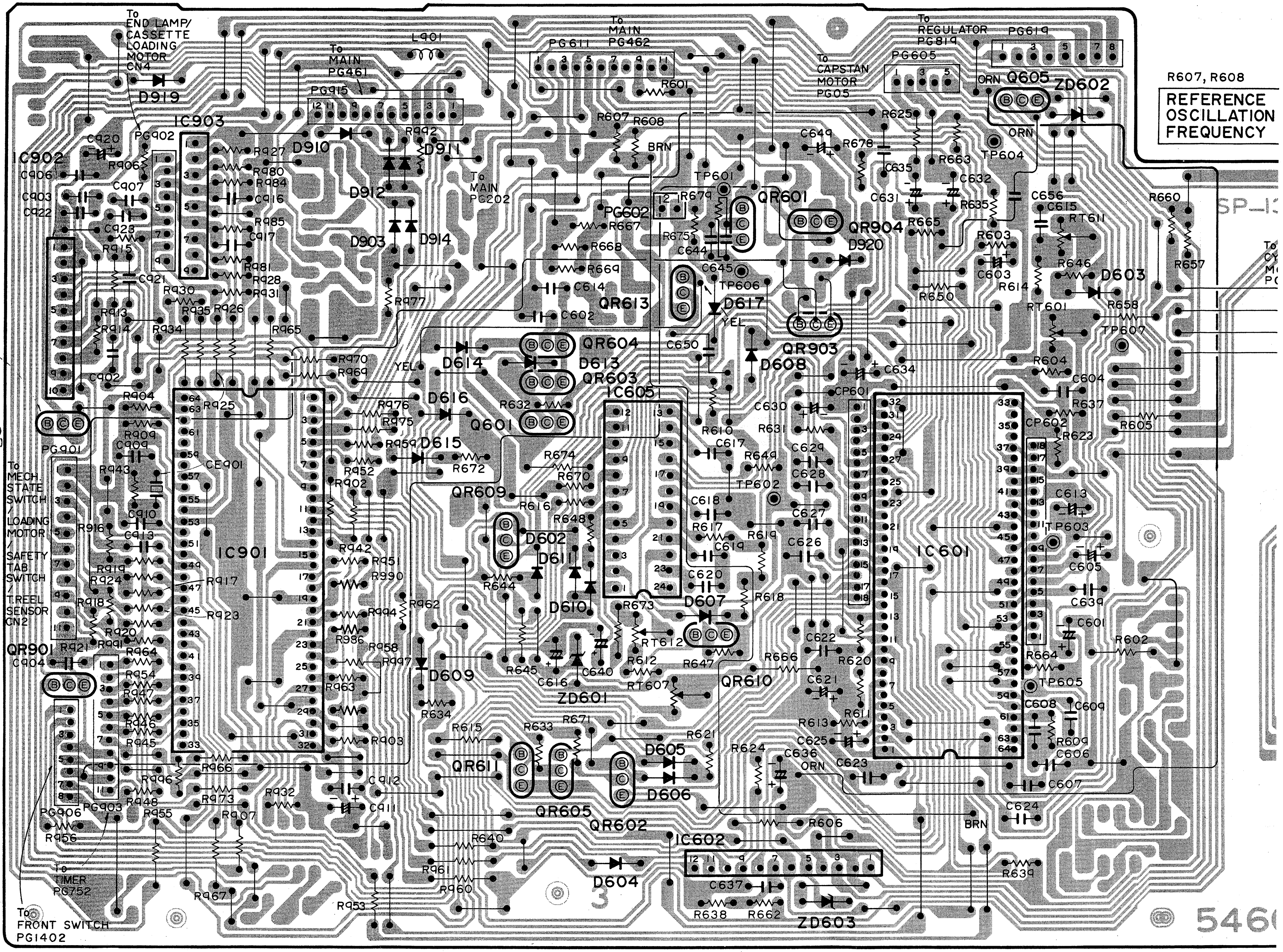

IC605
0 12
0 11
4.4
3.2 9
7.9
0 7
0
2.7 5
0
10.1 3
11.2
16.6 1
13 0
0
15 4.9
0
17 0
2.6
19 0
0
21 0
1.3(0)
23 4.9
24 5.2


IC901
0 64
0 63
—
— 61
—
0 59
—
5.0 57
0
0 55
5.0
0 53

— 51
5.0
0 49
0
0 47
5.0
0 45
0
0 43
0
— 41
0
— 39
—
— 37
5.0
5.0 35
0
— 33
1 —
0
3 0
0(5.0)
5 5.0(0)
5.0
7 0
0
9 0
5.0
11 0
0
13 0
5.0
15 5.0
—
17

0
19 0
5.0
21 0
—
23 —
0
25 —
0
27 0
0
29 0
0
31
32 5.0


IC602
0 2.6 2.9 (5.0) 6.4 0.6 3.9 (4.2)
12 11 9 7 5 3 1
0 4.8 2.6 11.7 (11.2) 4.1 0


To END LAMP/ CASSETTE LOADING MOTOR CN4
To MAIN PG461
To MAIN PG462
To REGULATOR PG819
To CAPSTAN MOTOR PG05
To MAIN PC202
To MECH. STATE SWITCH / LOADING MOTOR / SAFETY TAB SWITCH / T.REEL SENSOR CN2
To TIMER PG752
To FRONT SWITCH PG1402
PG915
PG611
PG605
PG619
PG602
PG902
PG901
PG906
PG903
L901
IC902
IC903
IC901
IC605
IC601
IC602
QR901
QR902
QR601
QR602
QR603
QR604
QR605
QR609
QR610
QR611
QR613
QR903
QR904
Q601
Q605
D603
D604
D605
D606
D607
D608
D609
D610
D611
D602
D613
D614
D615
D616
D617
D903
D910
D911
D912
D914
D919
D920
ZD601
ZD602
ZD603
RT601
RT607
RT611
RT612
TP601
TP602
TP603
TP604
TP605
TP606
TP607
CP601
CP602
CE901
R601
R607
R608
BRN
ORN
YEL
SP-1
5460

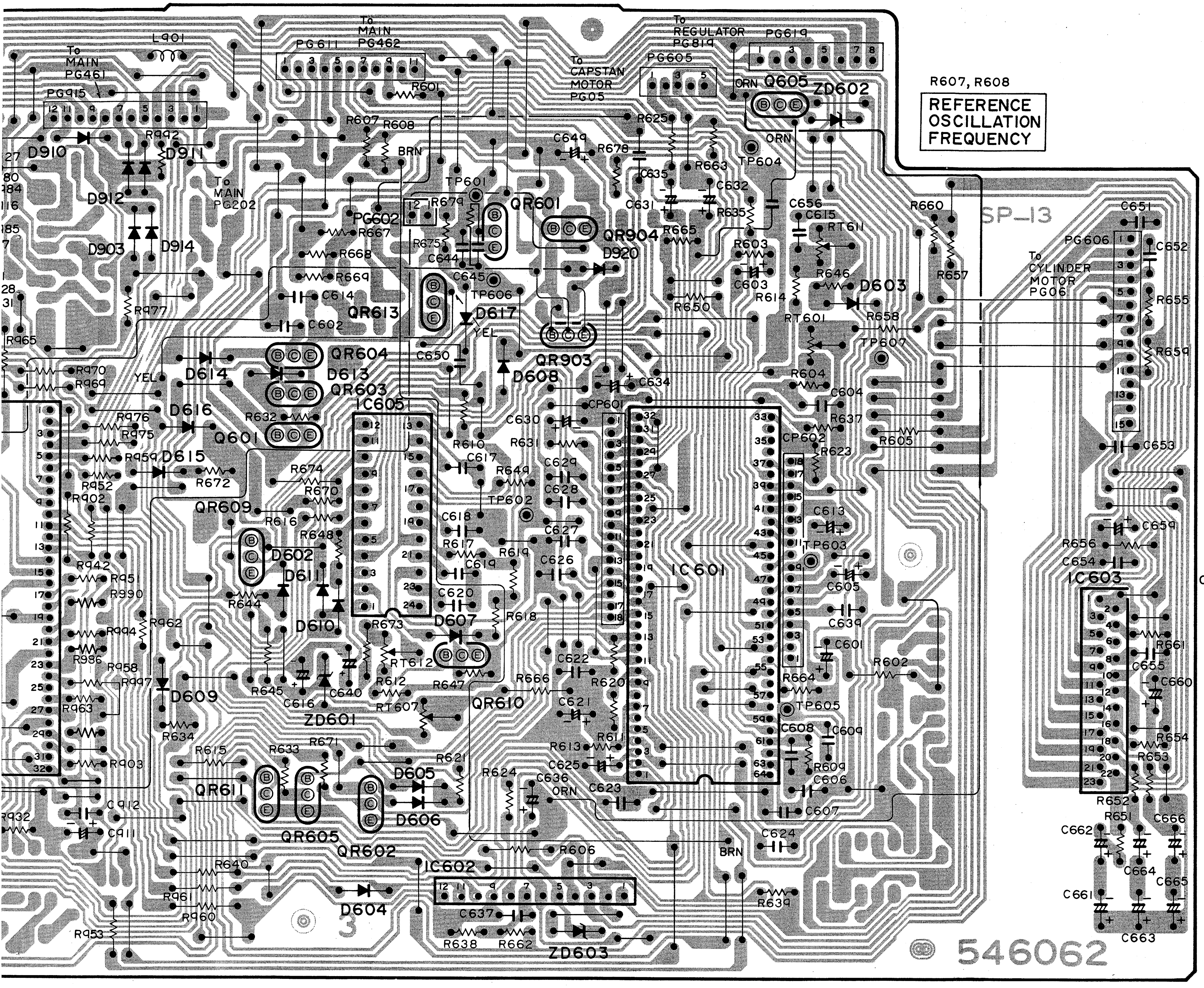
R607, R608
REFERENCE OSCILLATION FREQUENCY

SYSTEM CONTROL / SERV

RT612
SLOW TRACKING PRESET

RT607
TRACKING PRESET

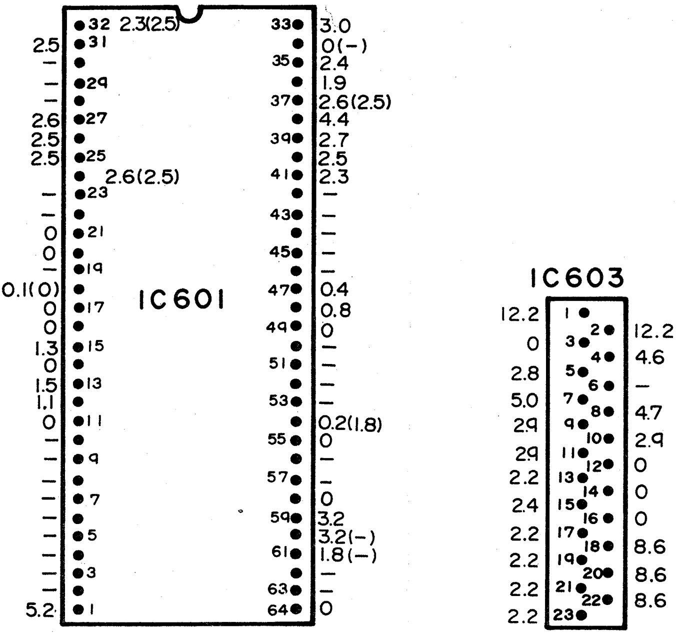
※ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODES.


To MAIN PG461
L901
PG915
PG611
To MAIN PG462
To CAPSTAN MOTOR PG05
To REGULATOR PG819
PG605
PG619
Q605
ZD602
To MAIN PG202
PG602
QR601
QR904
D920
QR613
D617
QR903
QR604
D613
QR603
IC605
Q601
QR609
D602
D611
D610
D609
ZD601
RT612
RT607
QR610
D607
QR611
QR605
QR602
D605
D606
IC602
D604
ZD603
IC601
IC603
To CYLINDER MOTOR PG06
PG606
RT611
RT601
D603
TP601
TP602
TP603
TP604
TP605
TP606
TP607
CP601
CP602
SP-13
546062

R607, R608
REFERENCE OSCILLATION FREQUENCY

RT611
SLOW STABILITY

RT601
HEAD SWITCHING POINT


IC601
IC603
12.2
0
2.8
5.0
2.9
2.9
2.2
2.4
2.2
2.2
2.2
2.2
12.2
4.6
–
4.7
2.9
0
0
0
8.6
8.6
8.6

SYSTEM CONTROL / SERVO P. C. B

RT612
SLOW TRACKING PRESET

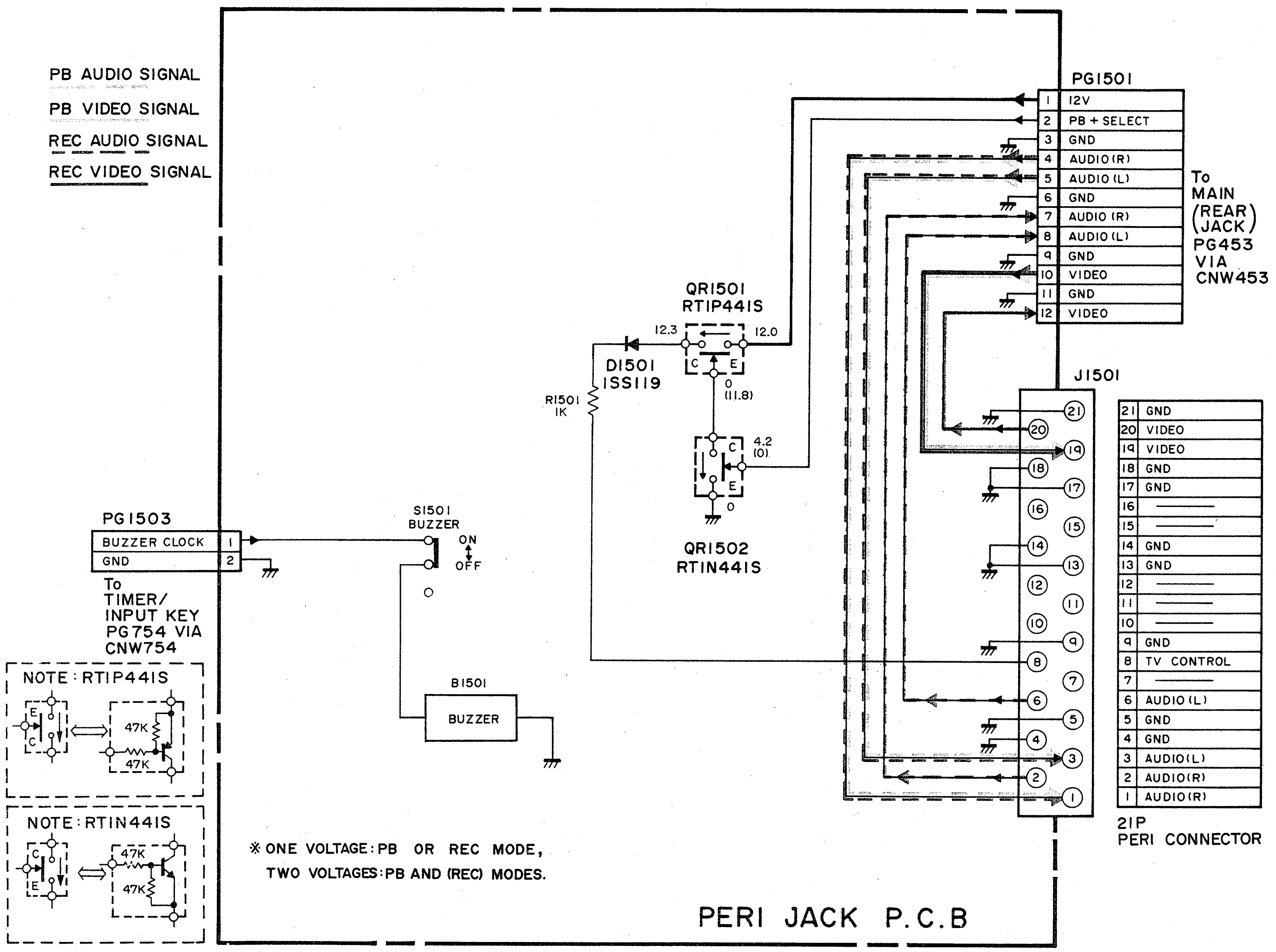
RT607
TRACKING PRESET

※ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODES.

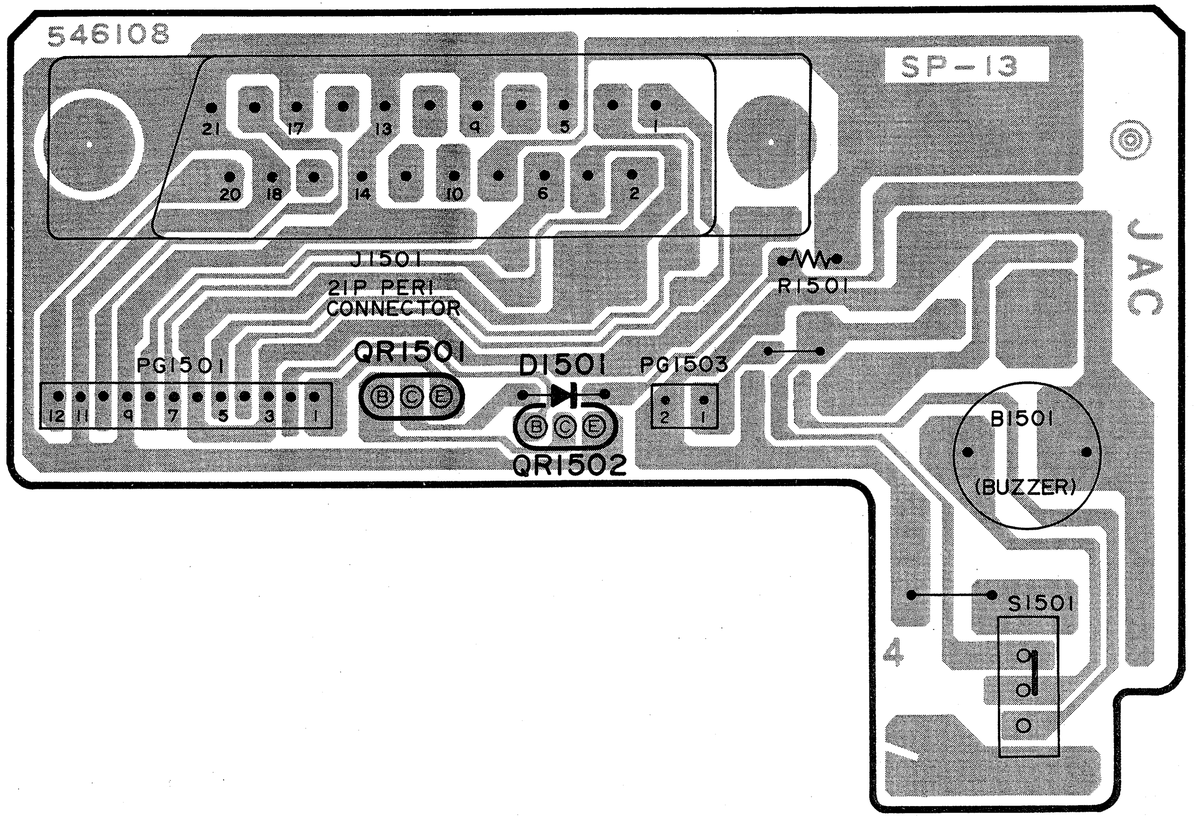
SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

4 5 6 7 8 9 10 11

PERI JACK (PERI-BUCHSE)


PB AUDIO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
REC VIDEO SIGNAL
PG1501
1 12V
2 PB + SELECT
3 GND
4 AUDIO (R)
5 AUDIO (L)
6 GND
7 AUDIO (R)
8 AUDIO (L)
9 GND
10 VIDEO
11 GND
12 VIDEO
To MAIN (REAR JACK) PG453 VIA CNW453
QR1501 RTIP441S
12.3
12.0
0 (11.8)
4.2 (0)
D1501 1SS119
R1501 1K
QR1502 RTIN441S
PG1503
1 BUZZER CLOCK
2 GND
To TIMER/ INPUT KEY PG754 VIA CNW754
S1501 BUZZER
ON
OFF
B1501
BUZZER
J1501
21 GND
20 VIDEO
19 VIDEO
18 GND
17 GND
16 ———
15 ———
14 GND
13 GND
12 ———
11 ———
10 ———
9 GND
8 TV CONTROL
7 ———
6 AUDIO (L)
5 GND
4 GND
3 AUDIO (L)
2 AUDIO (R)
1 AUDIO (R)
21P PERI CONNECTOR
NOTE : RTIP441S
47K
47K
NOTE : RTIN441S
47K
47K
PERI JACK P.C.B

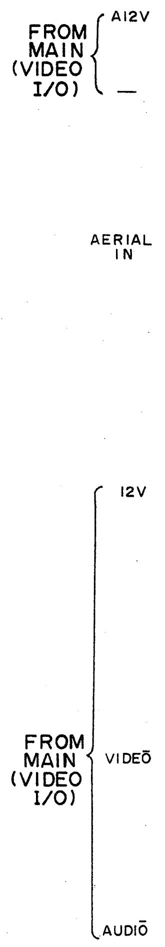
※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODES.


546108
SP-13
21
17
13
9
5
1
20
18
14
10
6
2
J1501
21P PERI CONNECTOR
R1501
JAC
PG1501
12 11 9 7 5 3 1
QR1501
B C E
D1501
PG1503
2 1
QR1502
B C E
B1501
(BUZZER)
S1501
4

PERI JACK P.C.B

SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

RF CONV

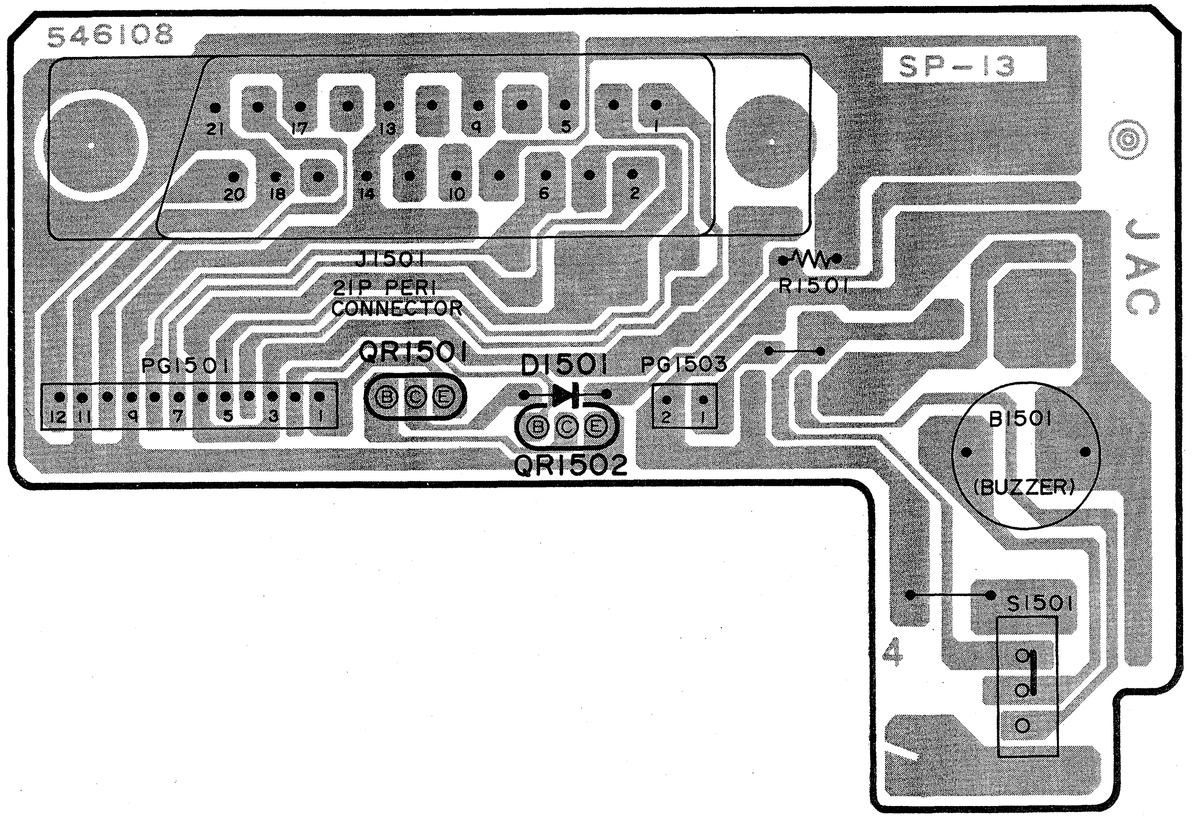

FROM MAIN (VIDEO I/O)
A12V
AERIAL IN
12V
FROM MAIN (VIDEO I/O)
VIDEO
AUDIO

PG1501
12V
PB + SELECT
GND
AUDIO (R)
AUDIO (L)
GND
AUDIO (R)
AUDIO (L)
GND
VIDEO
GND
VIDEO

To MAIN (REAR JACK) PG453 VIA CNW453

J1501	
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	GND
12	———
11	———
10	———
9	GND
8	TV CONTROL
7	———
6	AUDIO (L)
5	GND
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)

21P PERI CONNECTOR

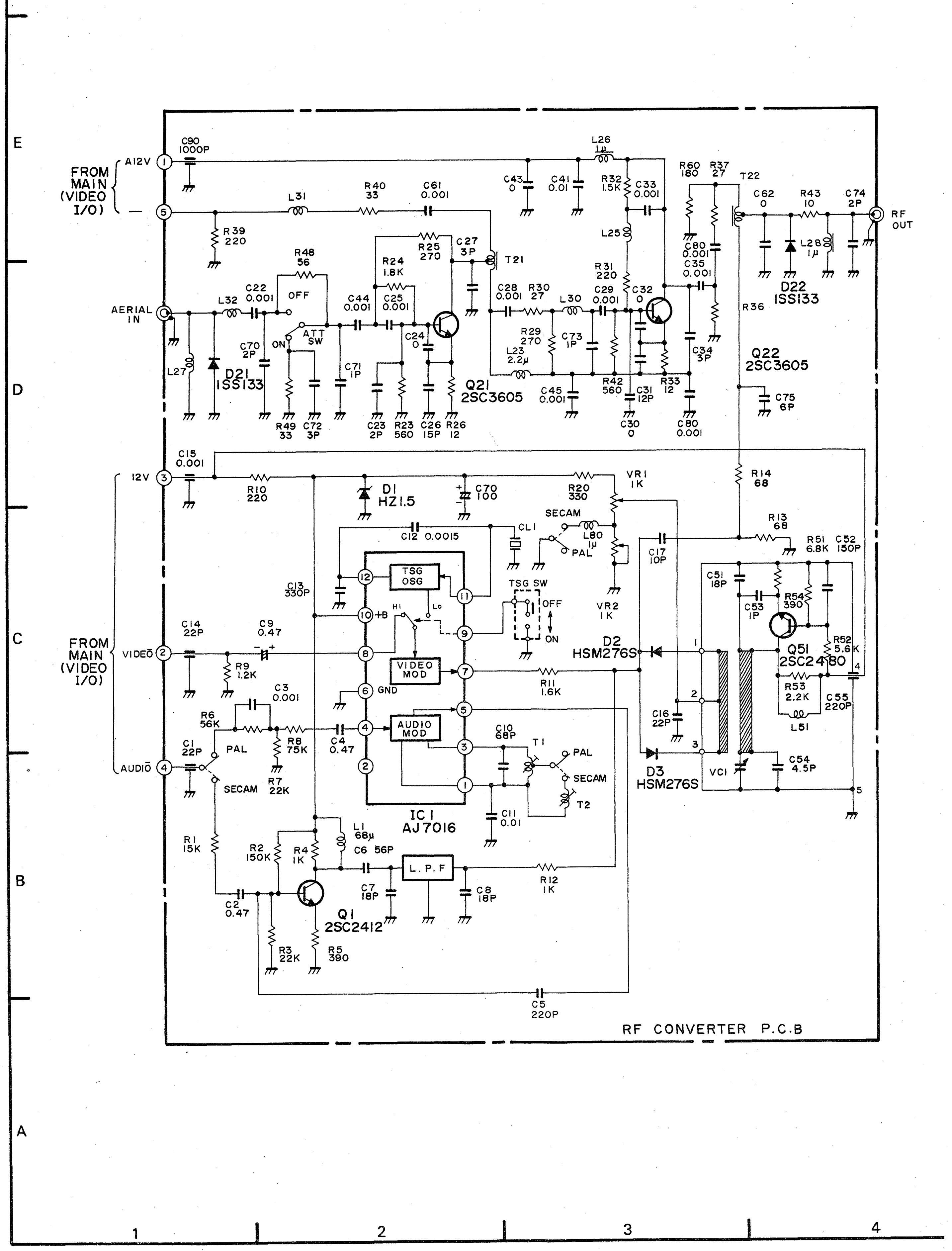

546108
SP-13
JAC
21
17
13
9
5
1
20
18
14
10
6
2
J1501
21P PERI
CONNECTOR
R1501
PG1501
12 11 9 7 5 3 1
QR1501
B C E
D1501
PG1503
2 1
QR1502
B1501
(BUZZER)
S1501
4

PERI JACK P.C.B

SCHEMATIC DIAGMAM	PAGE
TUNER UNIT	5-3
INTERNAL WIRING DIAGRAM	5-4
IF UNIT	5-7
V.S TUNING	5-9
REMOTE CONTROL	5-13
REGULATOR	5-15
TIMER/INPUTKEY	5-18
FRONT SWITCH	5-21
SECAM CHROMA	5-24
PRE AMP	5-28
Y/CHROMA	5-32
REAR JACK	5-38
AUDIO	5-39
VIDEO I/O	5-41
SERVO	5-46
MOTOR DRIVE	5-50
SYSTEM CONTROL	5-52
PERI JACK	5-58
RF CONVERTER	5-60

4 5 6 7

RF CONVERTER (CONVERTISSEUR HAUTES FRÉQUENCES)


E
D
C
B
A
1
2
3
4
FROM MAIN (VIDEO I/O)
A12V
C90 1000P
L26 1μ
R40 33
C61 0.001
L31
R39 220
C43 0
C41 0.01
R32 1.5K
C33 0.001
R60 180
R37 27
T22
C62 0
R43 10
C74 2P
RF OUT
L25
C80 0.001
C35 0.001
L28 1μ
D22 ISS133
R36
R48 56
R25 270
C27 3P
T21
R24 1.8K
R31 220
AERIAL IN
L32
C22 0.001
OFF
C44 0.001
C25 0.001
C28 0.001
R30 27
L30
C29 0.001
C32 0
ATT SW
ON
C70 2P
C71 1P
C24 0
R29 270
C73 1P
L23 2.2μ
C34 3P
Q22 2SC3605
L27
D21 ISS133
Q21 2SC3605
C45 0.001
R42 560
C31 12P
R33 12
C75 6P
R49 33
C72 3P
C23 2P
R23 560
C26 15P
R26 12
C30 0
C80 0.001
C15 0.001
12V
R10 220
D1 HZ1.5
C70 100
R20 330
VR1 1K
R14 68
SECAM
CL1
L80 1μ
PAL
R13 68
R51 6.8K
C52 150P
C12 0.0015
C17 10P
C13 330P
TSG OSG
TSG SW
OFF
ON
VR2 1K
C51 18P
C53 1P
R54 390
FROM MAIN (VIDEO I/O)
VIDEO
C14 22P
C9 0.47
+B
HI
Lo
D2 HSM276S
Q51 2SC2480
R52 5.6K
R9 1.2K
VIDEO MOD
R11 1.6K
R53 2.2K
C55 220P
C3 0.001
GND
L51
R6 56K
C16 22P
AUDIO
C1 22P
PAL
R8 75K
C4 0.47
AUDIO MOD
C10 68P
T1
PAL
D3 HSM276S
VC1
C54 4.5P
SECAM
R7 22K
SECAM
T2
IC1 AJ7016
C11 0.01
R1 15K
R2 150K
R4 1K
L1 68μ
C6 56P
L.P.F
R12 1K
C2 0.47
C7 18P
C8 18P
Q1 2SC2412
R3 22K
R5 390
C5 220P
RF CONVERTER P.C.B

REPLACEMENT PARTS LIST
(LISTE DES PIÈCES DE RECHANGE)

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 201	0208374	CERAMIC DISC 10000PF+-20% 16V
C 203	0208352	CERAMIC DISC 22PF 50V
C 209	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 210	0208374	CERAMIC DISC 10000PF+-20% 16V
C 211	0208357	CERAMIC DISC 68PF+-5% 50V
C 217	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 221	0208348	CERAMIC DISC 10PF+-5% 50V
C 222	0208355	CERAMIC DISC 39PF+-5% 50V
C 225	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 226	0256606	ELECTROLYTIC 1MF,50V
C 227	0256674	ELECTROLYTIC 4.7UF 35V
C 230	0256606	ELECTROLYTIC 1MF,50V
C 231	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 234	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 235	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 237	0208374	CERAMIC DISC 10000PF+-20% 16V
C 238	0208354	CERAMIC DISC 33PF+-5% 50V
C 240	0256674	ELECTROLYTIC 4.7UF 35V
C 241	0208374	CERAMIC DISC 10000PF+-20% 16V
C 242	0208352	CERAMIC DISC 22PF 50V
C 244	0208374	CERAMIC DISC 10000PF+-20% 16V
C 245	0208374	CERAMIC DISC 10000PF+-20% 16V
C 248	0208374	CERAMIC DISC 10000PF+-20% 16V
C 249	0208374	CERAMIC DISC 10000PF+-20% 16V
C 250	0208374	CERAMIC DISC 10000PF+-20% 16V
C 251	0208374	CERAMIC DISC 10000PF+-20% 16V
C 256	0208374	CERAMIC DISC 10000PF+-20% 16V
C 257	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 301	0208351	CERAMIC DISC 18PF 50V
C 305	0256194	ELECTROLYTIC 470MF,10V
C 306	0208690	CERAMIC DISC 180PF+-5% 50V
C 311	0208374	CERAMIC DISC 10000PF+-20% 16V
C 317	0208355	CERAMIC DISC 39PF+-5% 50V
C 351	0208374	CERAMIC DISC 10000PF+-20% 16V
C 355	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 356	0208352	CERAMIC DISC 22PF 50V
C 357	0208365	CERAMIC DISC 680PF+-10% 50V
C 359	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 360	0208358	CERAMIC DISC 68PF+-5% 50V
C 363	0208358	CERAMIC DISC 68PF+-5% 50V
C 380	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 381	0208374	CERAMIC DISC 10000PF+-20% 16V
C 382	02085243	CERAMIC DISC 470PF+-5% 50V
C 401	0208362	CERAMIC DISC 220PF+-10% 50V
C 402		CERAMIC DISC 150PF+-20% 50V
C 413	0208374	CERAMIC DISC 10000PF+-20% 16V
C 416	0208368	CERAMIC DISC 1500PF+-20% 50V
C 420	0208367	CERAMIC DISC 1000PF+-10% 50V
C 423	0208367	CERAMIC DISC 1000PF+-10% 50V
C 426	0208374	CERAMIC DISC 10000PF+-20% 16V
C 431	0208374	CERAMIC DISC 10000PF+-20% 16V
C 452	0256194	ELECTROLYTIC 470MF,10V
C 460	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 462	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 466	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 470	0208374	CERAMIC DISC 10000PF+-20% 16V
C 473	0208374	CERAMIC DISC 10000PF+-20% 16V
C 475	0208374	CERAMIC DISC 10000PF+-20% 16V
C 476	0207069	ELECTROLYTIC 10UF 16V
C 477	0208374	CERAMIC DISC 10000PF+-20% 16V
C 480	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 607	0208374	CERAMIC DISC 10000PF+-20% 16V
C 609	0208369	CERAMIC DISC 2200PF+-20% 16V
C 624	0208374	CERAMIC DISC 10000PF+-20% 16V
C 630	0256441	ELECTROLYTIC 4.7UF 25V
C 635	0208367	CERAMIC DISC 1000PF+-10% 50V
C 637	0208360	CERAMIC DISC 100PF+-10% 50V
C 644	0208361	CERAMIC DISC 150PF+-10% 50V
C 645	0208365	CERAMIC DISC 680PF+-10% 50V
C 751	0256488	ELECTROLYTIC 0.1UF 5.5V
C 752	0256626	ELECTROLYTIC 47UF 6.3V
C 753	0208374	CERAMIC DISC 10000PF+-20% 16V
C 754	0256626	ELECTROLYTIC 47UF 6.3V
C 755	0208374	CERAMIC DISC 10000PF+-20% 16V
C 756	0256606	ELECTROLYTIC 1MF,50V
C 757	0256612	ELECTROLYTIC 0.47UF 50V
C 759	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 760	0256626	ELECTROLYTIC 47UF 6.3V
C 761	0256612	ELECTROLYTIC 0.47UF 50V
C 763	0208348	CERAMIC DISC 10PF+-5% 50V
C 770	5058562	TRIMMER 22PF
C 801	0239357	CERAMIC DISC 56PF+-5% 50V
C 805	0208374	CERAMIC DISC 10000PF+-20% 16V
C 808	0208374	CERAMIC DISC 10000PF+-20% 16V
C 809	0256627	ELECTROLYTIC 47MF,16V
C 810	0208374	CERAMIC DISC 10000PF+-20% 16V
C 811	0256612	ELECTROLYTIC 0.47UF 50V
C 813	0208374	CERAMIC DISC 10000PF+-20% 16V
C 815	0208363	CERAMIC DISC 330PF+-10% 50V
C 816	0208354	CERAMIC DISC 33PF+-5% 50V
C 817	0208354	CERAMIC DISC 33PF+-5% 50V
C 819	0208374	CERAMIC DISC 10000PF+-20% 16V
C 820	0207066	ELECTROLYTIC 3.3UF 50V
C 821	0208374	CERAMIC DISC 10000PF+-20% 16V
C 825	0256180	CAPACITOR 1UF 50V ELECTROLYTIC
C 826	0256629	ELECTROLYTIC 47UF 50V
C 830	0208374	CERAMIC DISC 10000PF+-20% 16V
C 861	0256649	ELECTROLYTIC 2200UF 35V
C 862	0256649	ELECTROLYTIC 2200UF 35V
C 864	0256654	ELECTROLYTIC 4700UF 16V
C 873	0256632	ELECTROLYTIC 100UF 50V

SYMBOL-NO	P-NO	DESCRIPTION
C 874	0256635	ELECTROLYTIC 220UF 50V
C 902	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 903	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 904	0208374	CERAMIC DISC 10000PF+-20% 16V
C 906	0208374	CERAMIC DISC 10000PF+-20% 16V
C 907	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 909	0208354	CERAMIC DISC 33PF+-5% 50V
C 910	0208354	CERAMIC DISC 33PF+-5% 50V
C 912	0208374	CERAMIC DISC 10000PF+-20% 16V
C 913	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 916	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 917	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 921	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 922	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 923	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1206		CERAMIC DISC 56PF+-5% 50V
C1207	0256676	ELECTROLYTIC 47UF 10V
C1208	0256676	ELECTROLYTIC 47UF 10V
C1211	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1213		ELECTROLYTIC 3.3μF 16V
C1214		ELECTROLYTIC 3.3μF 16V
C1215	0208374	CERAMIC DISC 10000PF+-20% 16V
C1216	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1218	0256194	ELECTROLYTIC 470MF,10V
C1219	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1223	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1226		ELECTROLYTIC 3.3μF 16V
C1228	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C1302	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1303	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1304	0208358	CERAMIC DISC 68PF+-5% 50V
C1306	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1308	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1309	0208361	CERAMIC DISC 150PF+-10% 50V
C1310	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1312	0208374	CERAMIC DISC 10000PF+-20% 16V
C1313	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1315	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1316	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1317	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1319	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1359	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1361	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1362	0208375	CERAMIC DISC 22000PF+80-20% 25V
		RESISTORS
R 305	0171015	METAL FILM 68OHM+-5% 1W
R 654	0149705	METAL OXIDE 0.47OHM+-5% 1/2W
R 852	0171024	METAL OXIDE FILM 220OHM+-5% 1W
RT 201	5007895	SEMI VARIABLE 2.2KOHM
RT 301	5007896	SEMI VARIABLE 4.7KOHM
RT 351	5007893	SEMI VARIABLE 470OHM
RT 401	5007897	SEMI VARIABLE 10KOHM
RT 402	5007901	SEMI VARIABLE 100KOHM
RT 451	5009145	VARIABLE RESISTOR 50KOHM
RT 601	5007899	SEMI VARIABLE 47KOHM
RT 607	5007902	SEMI VARIABLE 220KOHM
RT 611	5007901	SEMI VARIABLE 100KOHM
RT 612	5007901	SEMI VARIABLE 100KOHM
RT1201	5007446	SEMI VARIABLE 4.7KOHM
RT1202		RESISTOR SEMI VARIABLE 22K OHM
RT1203	5007446	SEMI VARIABLE 4.7KOHM
RT1301	5007453	RESISTOR SEMI VARIABLE 470K OHM
RT1302	5007446	SEMI VARIABLE 4.7KOHM
RV 751	5009116	VARIABLE 10KOHM
RV1402	5009115	RESISTOR VARIABLE 20KOHM
RV1403	5009114	RESISTOR VARIABLE 500KOHM
		SEMI-CONDUCTORS
D 201	5339131	DIODE 1SS254
D 301	5339131	DIODE 1SS254
D 302	5339131	DIODE 1SS254
D 303	5339131	DIODE 1SS254
D 304	5339131	DIODE 1SS254
D 380	5339131	DIODE 1SS254
D 381	5339131	DIODE 1SS254
D 382	5339131	DIODE 1SS254
D 383	5339131	DIODE 1SS254
D 384	5339131	DIODE 1SS254
D 401	5339131	DIODE 1SS254
D 404	5339131	DIODE 1SS254
D 405	5339131	DIODE 1SS254
D 406	5339131	DIODE 1SS254
D 407	5339131	DIODE 1SS254
D 451	5339131	DIODE 1SS254
D 452	5339131	DIODE 1SS254
D 458	5339131	DIODE 1SS254
D 602	5339071	DIODE 1SS119-T
D 603	5339071	DIODE 1SS119-T
D 604	5339071	DIODE 1SS119-T
D 605	5339071	DIODE 1SS119-T
D 606	5339071	DIODE 1SS119-T
D 607	5339071	DIODE 1SS119-T
D 608	5339071	DIODE 1SS119-T
D 609	5339071	DIODE 1SS119-T
D 610	5339071	DIODE 1SS119-T
D 611	5339071	DIODE 1SS119-T
D 613	5339071	DIODE 1SS119-T
D 614	5339071	DIODE 1SS119-T
D 615	5339071	DIODE 1SS119-T
D 616	5339071	DIODE 1SS119-T
D 617	5339071	DIODE 1SS119-T
D 751	5339021	DIODE 1SS133
D 752	5331591	DIODE 1SS133HV/RD5-6EB1
D 753	5331591	DIODE 1SS133HV/RD5-6EB1
D 754	5339021	DIODE 1SS133
D 760	5331592	DIODE 1SS133
D 801	5332682	DIODE 1SS119-F
D 802	5332682	DIODE 1SS119-F
D 803	5339071	DIODE 1SS119-T

SYMBOL-NO	P-NO	DESCRIPTION
D 804	5332682	DIODE 1SS119-F
D 805	5332682	DIODE 1SS119-F
D 806	5332682	DIODE 1SS119-F
D 851	5331521	DIODE S4VB10
D 852	5332901	DIODE RM-4Z
D 853	5332901	DIODE RM-4Z
D 854	5339231	DIODE 1SR35-100A
D 855	5339231	DIODE 1SR35-100A
D 856	5339231	DIODE 1SR35-100A
D 857	5339231	DIODE 1SR35-100A
D 858	5339231	DIODE 1SR35-100A
D 859	5339231	DIODE 1SR35-100A
D 861	5339021	DIODE 1SS133
D 862	5339021	DIODE 1SS133
D 863	5339021	DIODE 1SS133
D 903	5339071	DIODE 1SS119-T
D 910	5339071	DIODE 1SS119-T
D 911	5339071	DIODE 1SS119-T
D 912	5339071	DIODE 1SS119-T
D 914	5339071	DIODE 1SS119-T
D 919	5339071	DIODE 1SS119-T
D 920	5332682	DIODE 1SS119-F
D1201	5339071	DIODE 1SS119-T
D1202	5339131	DIODE 1SS254
D1301	5339071	DIODE 1SS119-T
D1302	5339071	DIODE 1SS119-T
D1351	5339071	DIODE 1SS119-T
D1352	5339071	DIODE 1SS119-T
D1353	5339071	DIODE 1SS119-T
D1354	5339071	DIODE 1SS119-T
D1355	5339071	DIODE 1SS119-T
D1356	5332682	DIODE 1SS119-F
D1501	5339071	DIODE 1SS119-T
D1751	5381214	LED SEL2413E
D1752	5381211	LED SEL-2213C
D1753	5381213	LED SEL2813A
D1754	55390213	DIODE 1SS133
IC 201	5367321	IC HA11888
IC 202	5367311	IC M51485L
IC 203	5373922	IC HT4757A
IC 204	5362262	IC MSM6965RS
IC 205	5383421	IC HT4728
IC 301	5370273	IC HT4539B
IC 351	5366641	IC BA7025L
IC 401	5364062	IC TA7361AP
IC 402	5364931	IC BA5115L
IC 404	5721803	IC PROTECTER
IC 405	53505723	IC UPC14308H
IC 451L	5366981	IC M5201L
IC 453	5369431	IC LA7016
IC 456	5721803	IC PROTECTER
IC 457	5721803	IC PROTECTER
IC 601	5367302	IC M54898AP
IC 602	5369915	IC M54648L-D
IC 603	5355584	IC HA13403
IC 605	5366992	IC M51483P
IC 751	5361997	IC HD 614045-SE34
IC 801	5361834	IC M50161-354SP
IC 802	5366132	IC LA7934
IC 803	5361071	IC M58657P
IC 804	5721802	IC PROTECTER
IC 805	5721802	IC PROTECTER
IC 851	5368411	IC STK5476
IC 901	5368851	IC HD614042SE55
IC 902	5367111	IC M54649L
IC 903	5355781	IC NJM2903S
IC1201	5368311	IC LA7808
IC1202	5377312	IC HT4402A
IC1203	5361921	IC UPD4053
IC1301	5354822	IC TME021B
IC1302	5361482	IC UPD4538BC-B7
IC1303	5361691	IC UPD4027BC
IC1305	5364761	IC BA4560
IC1306	5350604	IC NJM4558S
Q 201	5327062	TRANSISTOR 2SC1740S-R
Q 202	5327021	TRANSISTOR 2SA844CD-TB
Q 203	5327021	TRANSISTOR 2SA844CD-TB
Q 204	5327021	TRANSISTOR 2SA844CD-TB
Q 205	5327062	TRANSISTOR 2SC1740S-R
Q 206	5327021	TRANSISTOR 2SA844CD-TB
Q 207	0573511	TRANSISTOR 2SC535C SILICON 700MHZ 100MW
Q 208	5327062	TRANSISTOR 2SC1740S-R
Q 209	5322732	TRANSISTOR 2SA952ML2
Q 301	5327062	TRANSISTOR 2SC1740S-R
Q 380	5327062	TRANSISTOR 2SC1740S-R
Q 381	5327021	TRANSISTOR 2SA844CD-TB
Q 382	5327021	TRANSISTOR 2SA844CD-TB
Q 402	5321213	TRANSISTOR 2SD468C SILICON 190MHZ 0.9W
Q 403	5322733	TRANSISTOR 2SA952ML SILICON 160MHZ 0.6W
Q 404	5327062	TRANSISTOR 2SC1740S-R
Q 451	5327031	TRANSISTOR 2SA673C
Q 455	5322732	TRANSISTOR 2SA952ML2
Q 601	5327001	TRANSISTOR 2SC458CD
Q 605	5327031	TRANSISTOR 2SA673C
Q 751	5321663	TRANSISTOR 2SC2021RS
Q 754	5321663	TRANSISTOR 2SC2021RS
Q 755	5321663	TRANSISTOR 2SC2021RS
Q 802	5323904	TRANSISTOR 2SC1740S
Q 803	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 808	5321214	TRANSISTOR 2SD468BC SILICON 190MHZ 0.9W
Q 810	5327031	TRANSISTOR 2SA673C
Q 811	5327031	TRANSISTOR 2SA673C
Q 814	5323904	TRANSISTOR 2SC1740S
Q 851	5322216	TRANSISTOR 2SC1741QR SILICON 250MHZ 0.4W
Q 852	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 853	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 854	5323331	TRANSISTOR 2SB772Q
Q1201	5327062	TRANSISTOR 2SC1740S-R
Q1202	5327062	TRANSISTOR 2SC1740S-R
Q1203	5327062	TRANSISTOR 2SC1740S-R
Q1301	5327062	TRANSISTOR 2SC1740S-R
Q1302	5327062	TRANSISTOR 2SC1740S-R

SYMBOL-NO	P-NO	DESCRIPTION
Q1303	5327062	TRANSISTOR 2SC1740S-R
Q1304	5327031	TRANSISTOR 2SA673C
Q1305	5327062	TRANSISTOR 2SC1740S-R
Q1306	5327031	TRANSISTOR 2SA673C
Q1307	5327062	TRANSISTOR 2SC1740S-R
Q1308	5327031	TRANSISTOR 2SA673C
Q1309	5327062	TRANSISTOR 2SC1740S-R
Q1310	5327062	TRANSISTOR 2SC1740S-R
Q1351	5327062	TRANSISTOR 2SC1740S-R
Q1352	5327031	TRANSISTOR 2SA673C
Q1353	5327062	TRANSISTOR 2SC1740S-R
Q1354	5327062	TRANSISTOR 2SC1740S-R
QR 201	5327081	TRANSISTOR RT1N241S
QR 202	5327081	TRANSISTOR RT1N241S
QR 205	5327083	TRANSISTER RT1P241S
QR 207	5327083	TRANSISTER RT1P241S
QR 208	5327081	TRANSISTOR RT1N241S
QR 301	5327081	TRANSISTOR RT1N241S
QR 380	5324092	TRANSISTOR RT1N441S
QR 401	5323561	TRANSISTOR DTC124F
QR 403	5323561	TRANSISTOR DTC124F
QR 452	5327081	TRANSISTOR RT1N241S
QR 453	5327081	TRANSISTOR RT1N241S
QR 454	5327081	TRANSISTOR RT1N241S
QR 601	5327082	TRANSISTOR RT1N441S
QR 602	5327082	TRANSISTOR RT1N441S
QR 603	5327082	TRANSISTOR RT1N441S
QR 604	5327082	TRANSISTOR RT1N441S
QR 605	5327082	TRANSISTOR RT1N441S
QR 609	5327082	TRANSISTOR RT1N441S
QR 610	5327084	TRANSISTER RT1P441S
QR 611	5327082	TRANSISTOR RT1N441S
QR 613	5327082	TRANSISTOR RT1N441S
QR 801	5327082	TRANSISTOR RT1N441S
QR 804	5327082	TRANSISTOR RT1N441S
QR 812	5327082	TRANSISTOR RT1N441S
QR 851	5324091	TRANSISTOR RT1N241S
QR 901	5327081	TRANSISTOR RT1N241S
QR 902	5327083	TRANSISTER RT1P241S
QR 903		TRANSISTOR RT1P241S
QR 904		TRANSISTOR RT1N241S
QR1301	5327081	TRANSISTOR RT1N241S
QR1302	5327081	TRANSISTOR RT1N241S
QR1303	5327081	TRANSISTOR RT1N241S
QR1401		TRANSISTOR DTC124F
QR1501	5327084	TRANSISTOR RT1P441S
QR1502	5327082	TRANSISTOR RT1N441S
QR1751	5327082	TRANSISTOR RT1N441S
QR1752	5327082	TRANSISTOR RT1N441S
ZD 380	5330398	DIODE HZ9C-1
ZD 601	5330563	DIODE HZ16-3 SI ZENER 1MHZ 0.4W
ZD 602	5339105	DIODE HZ7A1
ZD 603	5339105	DIODE HZ7A1
ZD 751	5332633	DIODE RD4R7JSB1-2
ZD 752	5330322	DIODE HZ9B SI ZENER 1MHZ 0.4W
ZD 753	53315883	DIODE RD2.7E-B2 ZENNER

SYMBOL-NO	P-NO	DESCRIPTION
ZD 801	5350611	DIODE UPC574J
ZD 802	5339102	DIODE HZ5A
ZD 803	5331274	DIODE HZ-30-1
ZD 851	5330392	DIODE HZ6B SI ZENER 1MHZ 0.4W
ZD 852	5330322	DIODE HZ9B SI ZENER 1MHZ 0.4W
ZD 853	5330532	DIODE HZ12B SI ZENER 1MHZ 0.4W
ZD 854	5331271	DIODE HZ18-3
ZD 855	5331588	DIODE RD2.7E-B2
		TRANSFORHERS
T 401	5262531	BIAS COIL
		COILS
L 201	5153038	CHOKE COIL 39UH
L 202	5153032	CHOKE COIL 12UH
L 203	5159154	CHOKE COIL 100UH
L 204	5159077	CHOKE COIL 100UH+-10%
L 205	5153036	CHOKE COIL 27UH
L 206	5159141	CHOKE COIL 10UH
L 207	5159082	CHOKE COIL 220UH+-10%
L 208	5159158	CHOKE COIL 220UH
L 209	5159152	CHOKE COIL 68UH
L 210	5153033	CHOKE COIL 15UH
L 211	5159076	CHOKE COIL 82UH
L 213	5159158	CHOKE COIL 220UH
L 214		CHOKE COIL 47UH
L 215	5159158	CHOKE COIL 220UH
L 216	5153033	CHOKE COIL 15UH
L 217	5159158	CHOKE COIL 220UH
L 218		CHOKE COIL 270UH
L 219	5159158	CHOKE COIL 220UH
L 220	5159152	CHOKE COIL 68UH
L 301	5153036	CHOKE COIL 27UH
L 302	5150577	CHOCK COIL 12MH
L 303	5153031	CHOKE COIL 10UH
L 305	5153033	CHOKE COIL 15UH
L 306	5159082	CHOKE COIL 220UH+-10%
L 307	5159154	CHOKE COIL 100UH
L 351	5120849	TRAP COIL
L 352	5159146	CHOKE COIL 27UH
L 401	5152971	CHOKE COIL 5.6UH
L 402	5152971	CHOKE COIL 5.6UH
L 403		CHOKE COIL 180UH+-10%
L 451	5159154	CHOKE COIL 100UH
L 452	5159154	CHOKE COIL 100UH
L 453	5159154	CHOKE COIL 100UH
L 901	5159077	CHOKE COIL 100UH+-10%
L1201	5159082	CHOKE COIL 220UH+-10%
L1202	5159077	CHOKE COIL 100UH+-10%
L1203	5159077	CHOKE COIL 100UH+-10%
L1204	5159077	CHOKE COIL 100UH+-10%
L1301	5159077	CHOKE COIL 100UH+-10%
L1302	5159072	CHOKE COIL 39μF
L1303	5159077	CHOKE COIL 100UH+-10%
L1304	5159071	CHOKE COIL 33UH+-10%

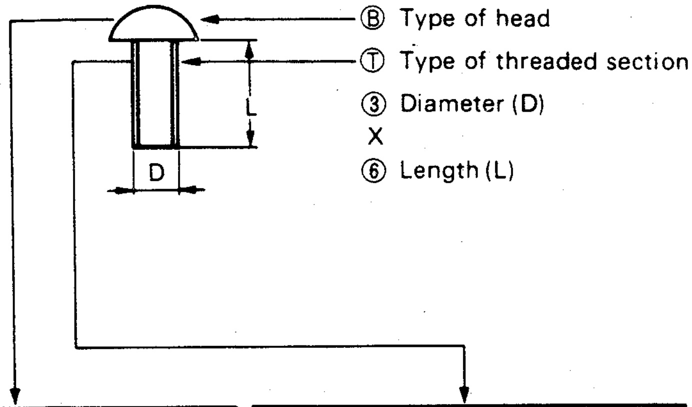
SYMBOL-NO	P-NO	DESCRIPTION	
L1305	5159077	CHOKE COIL	100UH+-10%
L1306	5159077	CHOKE COIL	100UH+-10%
⚠L 851		NOISE FILTER 1.3mA	
		CRYSTALS	
X 751	5781611	CRYSTAL	
X 801	5781121	XTAL	
		MISCELLANEOUS	
B1501	5409271	BUZZER	
CE 901	5781121	XTAL	
CNW462	581329F		
CP 201	5123839	TRAP COIL	
CP 203	5169012	LOW PASS FILTER	
CP 204	5169003	LOW PASS FILTER	
CP 301	5785813	DELAY LINE	
CP 302	5163082	BAND PASS FILTER	
CP 351	5160431	BAND PASS FILTER	
CP 601	5383202	IC HT4625	
CP 602	5383302	IC HT4626	
DG 751	5311781	DISPLAY	
⚠F 850	5720175	FUSE 0.8A	
⚠F 851	5721064	FUSE 2.5A	
⚠F 852	5721064	FUSE 2.5A	
⚠F 853	5720171	FUSE 315MA	
J1501	5658301	CONNECTOR SOCKET	
S 143	5633362	PUSH SWITCH	
S 144	5633362	PUSH SWITCH	
S 451	56241313	SLIDE SWITCH	
S 751	5635061	SWITCH	
S 752	5635061	SWITCH	
S 753	5635061	SWITCH	
S 754	5635061	SWITCH	
S 755	5635061	SWITCH	
S 756	5635061	SWITCH	
S 757	5635061	SWITCH	
S 759	5635061	SWITCH	
S 760	5635061	SWITCH	
S 761	5635061	SWITCH	
S 762	5635061	SWITCH	
S 764	5635061	SWITCH	
S 765	5635061	SWITCH	
S 766	5635061	SWITCH	
S 768	5635061	SWITCH	
S 769	5635061	SWITCH	
S 775	5635061	SWITCH	
S 776	5635061	SWITCH	
S 777	5635061	SWITCH	
S 780	5635061	SWITCH	
S 781	5635061	SWITCH	
S 782	5635061	SWITCH	
S 783	5635061	SWITCH	
S 786	5635061	SWITCH	
S 787	5635061	SWITCH	

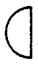
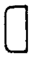
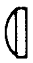
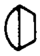
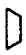
SYMBOL-NO	P-NO	DESCRIPTION
S 789	5622602	SWITCH
S1401	5635062	SWITCH
S1402	5634584	SWITCH
S1501	5622841	SWITCH

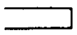
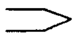
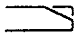
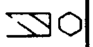
EXPLODED VIEWS

SCREW CLASSIFICATION

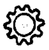
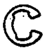
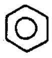
Example: BT3 × 6



Abbre-viation	Name	Shape
No symbol	Brazier head	
P	Pan head	
B	Binding head	
O	Oval countersunk head	
F	Flat countersunk head	

Abbre-viation	Name	Shape
No symbol	Machine (clamps without tapping)	
t	Tapping (clamps with tapping) Type 1	
T	Tapping (clamps with tapping) Type 2	
f	Forming tight (for metal)	
Note	Since the forming tight screw tightens while self-tapping. machine screws can be replaced by tapping screws	

Washers and Nuts

Abbre-viation	Name	Shape
W SW LW	Washer Spring washer Locking washer	 
E	E-ring	
N	Nut	
Note	Internal dia is indicated for nuts and washers	

LUBRICATION

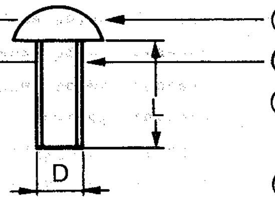
Lubrication points are shown in the exploded view diagrams by marks (Ⓢ, Ⓗ)
Lubricants shown in the diagram are as follows.

Ⓢ Sonic slider oil (# 1600)
Ⓗ Hitazol (MO-138)

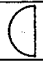
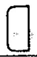
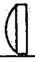
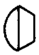
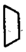
VUES ÉCLATÉS

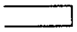
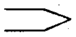
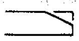
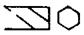
CLASSIFICATION DES VIS

Exemple: BT3 x 6

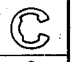


Ⓑ Type de tête
Ⓣ Type de section filetée
③ Diamètre (D)
X
⑥ Longueur (L)

Abréviation	Designation	Forme
No. de symbole	Tête ronde	
P	Tête cylindrique tronconique	
B	Tête cylindrique bombée large	
O	Tête ovale fraisée	
F	Tête plate fraisée	

Abréviation	Désignation	Forme
No. de symbole	Mécanique (serre sans tarauder)	
t	Taraude (serre en taraudant) type 1	
T	Taraude (serre en taraudant) type 2	
f	Formage (pour plaque métallique)	
N.B.:	Les vis de formage serrant tout en autotaraudant, les vis mécanique peuvent être remplacées par des vis autotaraudeuses.	

Rondelles et écrous

Abréviation	Désignation	Forme
W SW LW	Rondelle Rondelle élastique Rondelle de blocage	
E	Bague ouverte en E	
N	Ecrou	
N.B.:	Le diamètre interne est indiqué pour les écrous et les rondelles.	

LUBRIFICATION

Les points de lubrification sont indiqués sur les vues éclatées à l'aide des repères (Ⓢ, Ⓗ).
Les lubrifiants indiquées sur les schémas sont les suivants.

Ⓢ Huile de curseur Sonic (No. 1600)
Ⓗ Hitazol (MO-138)

MECHANICAL PARTS LIST

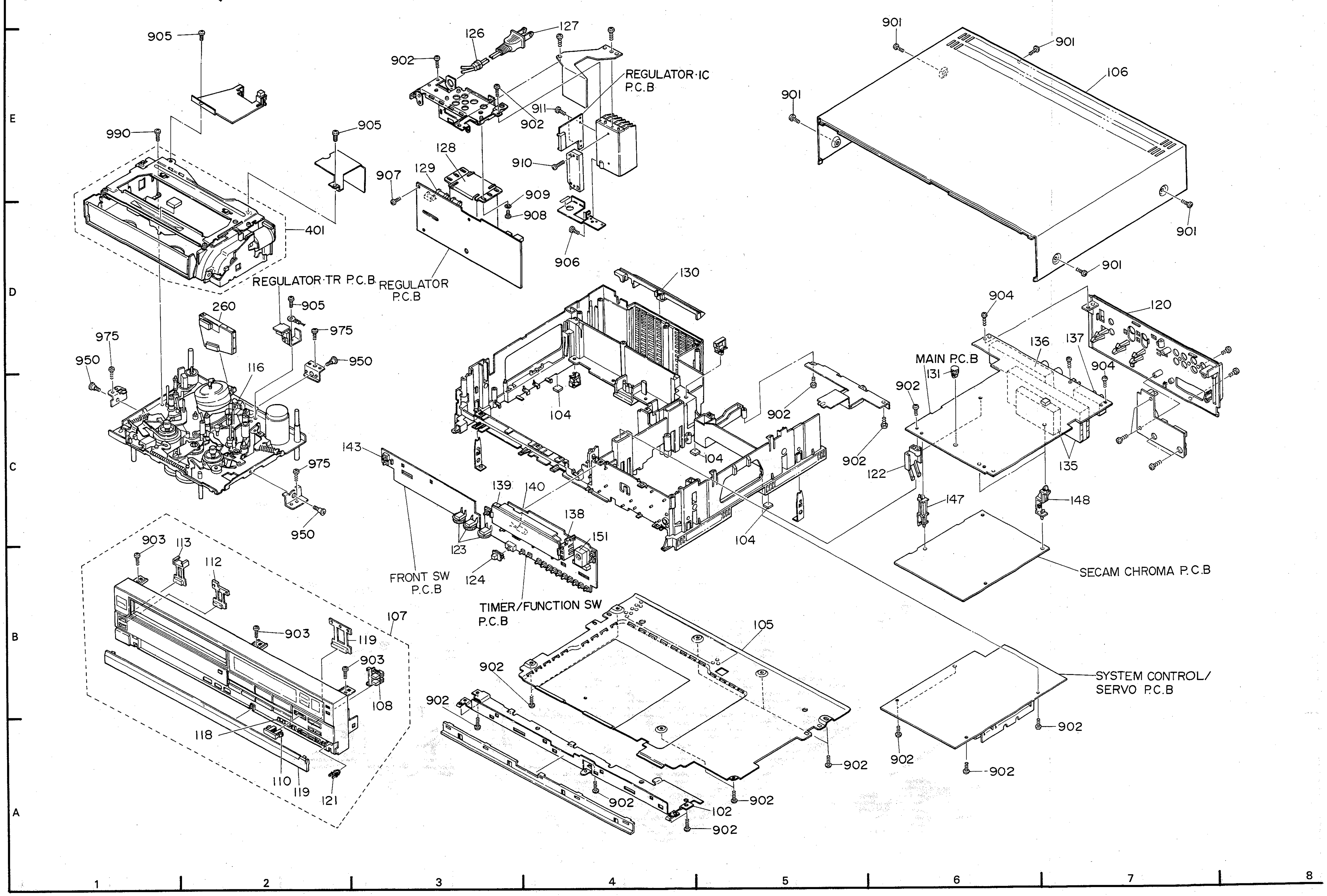
SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6175844	CASSETTE DOOR
102	6001934	BOTTOM PLATE
104	7741444	FELT (LEG)
105	6001522	BOTTOM COVER
106	6001596	TOP COVER ASSEMBLY
107	6239253	FRONT PANEL
108	6084453	BUTTON
109	6084445	BUTTON-REC
110	6084469	BUTTON-CHANNEL
112	6085801	BUTTON-EJECT
113	6084517	BUTTON
116	6864241	CAP
118	6085338	BUTTON-PRESET
119	6189985	TIMER DOOR
120	6027813	REAR PANEL
121	6893561	RATCH
122	6894011	CBA PIECE
123	6077293	KNOB
124	6077281	SLIDE KNOB
126	6794591	BUSHING
127	5746157	POWER CORD WITH PLUG
128	5213853	POWER TRANSFORMER
129	6753911	FUSE COVER
130	6892132	REAR PIECE
131	6890501	STUD
135	5586751	TUNER IF BLOCK
136	5587691	RF CONVERTER
137	5690233	JACK PLATE
138	6891191	LED HOLDER
139	6891531	DISPLAY HOLDER
140	6869311	COVER
147	6894522	CBA HOLDER
148	6894531	CBA HOLDER
151	5490295	IR MODULE
202	6415391	REEL TABLE-SUPPLY
203	6415412	REEL TABLE-TAKE UP
206	7787412	WASHER
207	7778859	POLYSLIDER WASHER
208	6865662	ARM-BRAKE
209	7386841	TENSION ARM
210	6865804	BRAKE L
211	6865812	BRAKE R
212	6302471	SPRING
213	6543864	SPRING
214	7376271	TENSION BAND
216	7368351	ARM BRAKET

SYMBOL-NO	P-NO	DESCRIPTION	
217	6894301	ARM	
218	7376303	LOADING LINK ASSY	(RIGHT)
219	7376313	LOADING LINK ASSY	(LEFT)
220	6978301	GUIDE ROLLER BASE	(IN)
221	6974661	BASE	
224	6869481	GUIDE ROLLER	
226	7386893	GUIDE BASE HOLDER	
228	6868061	GUIDE ROLLER ASSEMBLY (OUT)	
230	6304903	SPRING	
231	6879902	IMPEDANCE ARM ASSY	
232	5446151	FULL ERASE HEAD	
233	6302391	SPRING	
234	5446161	AUDIO CONTROL HEAD	
235	6304906	SPRING	
236	7786245	WASHER	
237	6878932	SUB BRAKE	
238	6300084	SPRING	
239	5578762	CAPSTAN MOTOR	
240	6865675	REC PREVENTION ARM	
241	5633971	SWITCH (S142)	
242	7788143	POLYSLIDER WASHER	
243	6975471	ARM	
246	6547811	SPRING	
247	6979042	SCREW	
248	5625141	SWITCH	
250	6873291	COLLAR	
251	4504401	TAPE GUIDE	
255	6877521	COLLAR	
256	6539101	SPRING	
257	6975321	ARM	
258	6550751	SPRING	
259	7786626	WASHER	
260	5372171	PWB ASSY	PRE AMP
301	6894361	CLUTCH PLATE ASSY	
302	6355561	BELT	
303	7386972	SLIDER-BRAKE	
304	6865733	MODE SLIDER	
305	6547821	SPRING	
306	6889552	GEAR	
307	6865791	TENTION ARM	
311	7386933	LOADING MOTOR	
312	6356111	BELT	
313	6356451	BELT	
314	6979051	FLYWHEEL	
315	7788142	WASHER	
316	7788861	WASHER	
317	6356101	BELT	
318	6356081	BELT	

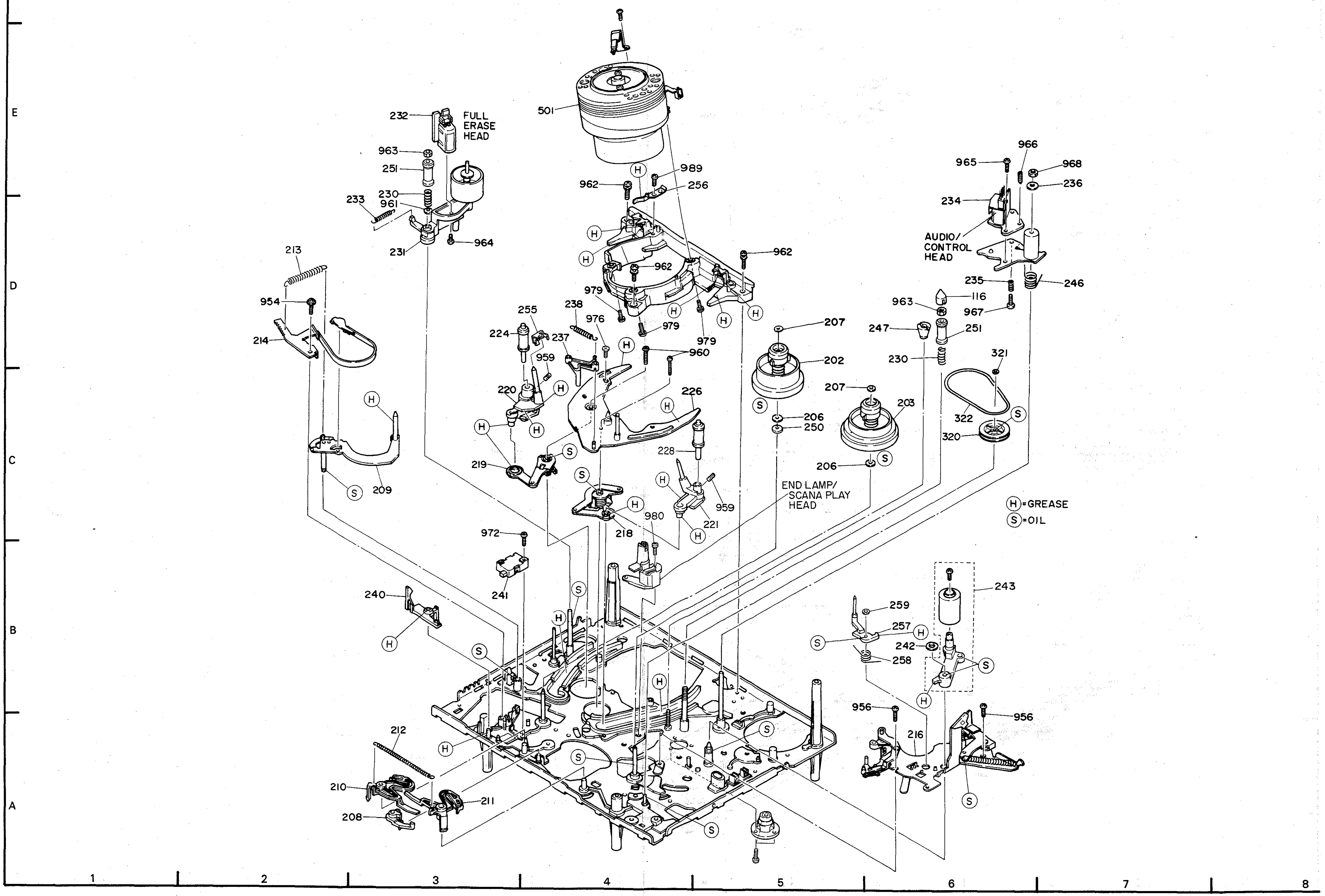
SYMBOL-NO	P-NO	DESCRIPTION
319	7386833	PLATE
320	6869291	PULLEY
321	7778859	POLYSLIDER WASHER
322	6355561	BELT
401	7412155	CASSETTE HOLDER ASSY
402	7386745	SIDE BRACKET ASSY (LEFT)
403	7386701	BRACKET(R)
404	7412162	CASSETTE HOLDER
412	7394494	BRACKET-MOTOR ASSY
414	5946911	MOTOR CBA
417	6879105	LOADING GEAR ASSY-R
423	6879093	LOADING GEAR (L)
424	7367361	PLATE
425	6887322	FRONT HOLDER
426	4500402	SHAFT
427	6879153	DOOR ARM
428	6301027	SPRING
430	6879182	GUIDE PIECE
501	5457472	UPPER CYLINDER
901	8699410	SCREW (3X14) BLACK
902	7784428	SCREW (M3)
903	7781131	B TIGHTING SCREW 3MMD X 12MM
904	8741406	SCREW (3X6)
905	8699412	SCREW (3X12) BLACK
906	8691410	SCREW
907	8691608	SCREW 4X8BT
908	8691408	SCREW (3X8)
909	8815116	LOCK WASHER 4MMD
910	8699408	SCREW
911	8641406	FT BIND SCREW - 3MMD X 6MM
950	7541395	SPECIAL SCREW
951	8691408	SCREW (3X8)
952	8741408	SCREW (B3X8)
954	7781133	BT SCREW 3MMD
955	8691408	SCREW (3X8)
956	8691408	SCREW (3X8)
958	8691408	SCREW (3X8)
959	7773083	SCREW
960	8741408	SCREW (B3X8)
961	8812114	WASHER - 3MMD SMALL
962	8650412	SCREW (3X12)
963	8821114	3D NUT
964	8741103	SCREW(2X3B)
965	7781872	SCREW-3MMDX8MM
966	7773086	SCREW
967	8741414	SCREW (3X14)
968	8821114	3D NUT
969	8741408	SCREW (B3X8)
970	8691408	SCREW (3X8)
971	8691408	SCREW (3X8)
972	8691312	SCREW (2.6X12)
975	8699410	SCREW (3X14) BLACK
976	7782781	SCREW 3X8BT

SYMBOL-NO	P-NO	DESCRIPTION
977	8691408	SCREW (3X8)
979	8650408	SCREW
980	8741406	SCREW (3X6)
983	8741403	BIND SCREW-3MMDX3MM
985	8671406	SCREW
986	8678405	SCREW (3X5) BLACK
988	8691410	SCREW
989	8711103	PAN HEAD SCREW 2X3
990	8741406	SCREW (3X6)
		FOR ACCESSARIES
	5898876	CONNECTER CORD
	5637138	REMOTO HAND SET

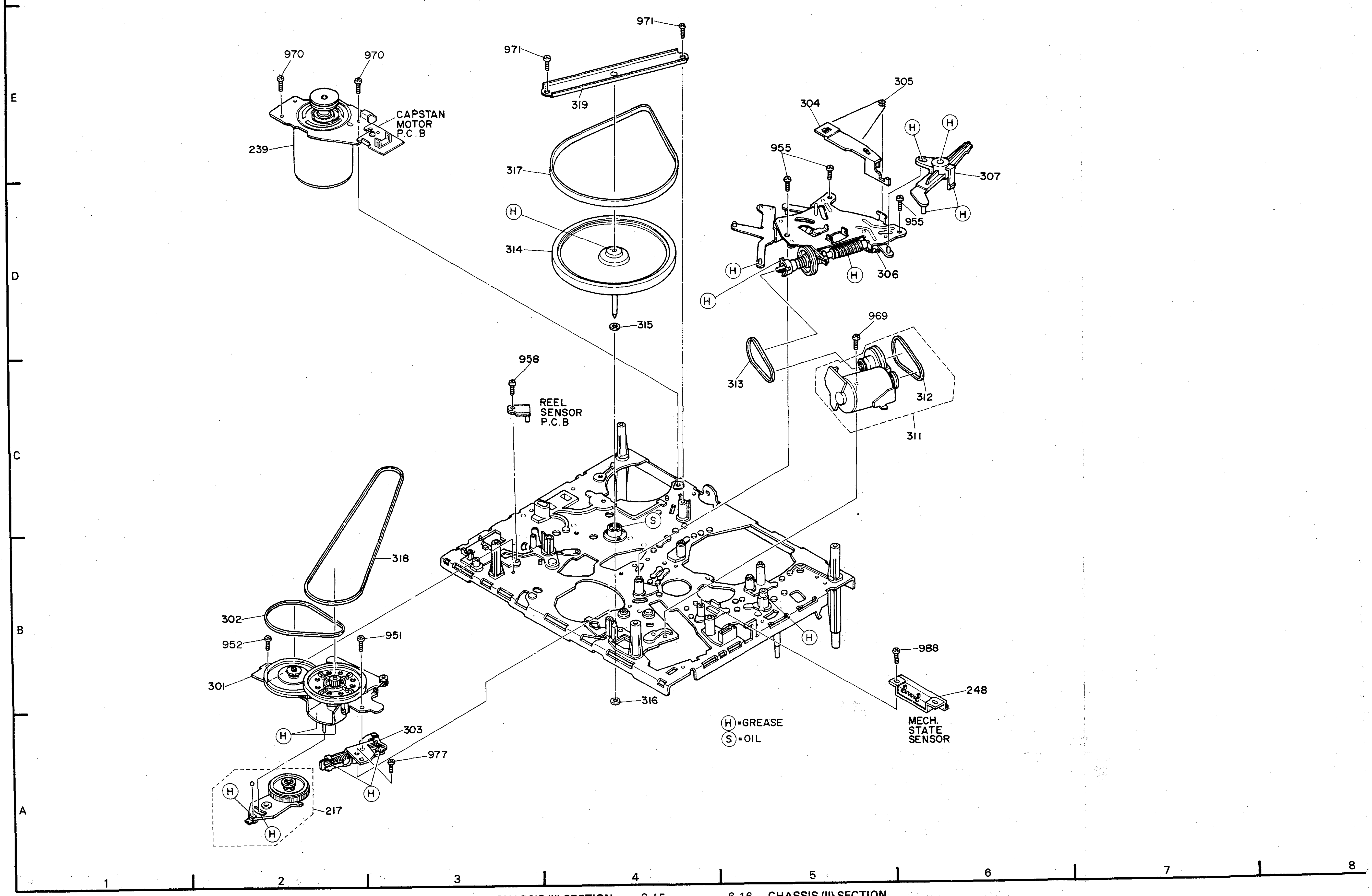
CABINET SECTION (SECTION COFFRET)


905
126
127
902
REGULATOR·IC P.C.B
901
901
106
901
990
911
902
905
128
910
907
129
909
908
401
906
901
901
REGULATOR·TR P.C.B.
REGULATOR P.C.B
130
260
905
975
904
120
975
950
950
116
136
137
MAIN P.C.B
131
904
902
104
902
143
975
104
902
122
135
139
140
138
147
148
151
950
104
903
113
112
123
124
FRONT SW P.C.B
SECAM CHROMA P.C.B
107
TIMER/FUNCTION SW P.C.B
903
119
105
903
902
SYSTEM CONTROL/ SERVO P.C.B
108
902
902
118
902
902
902
110
119
121
902
102
902
902
E
D
C
B
A
1
2
3
4
5
6
7
8

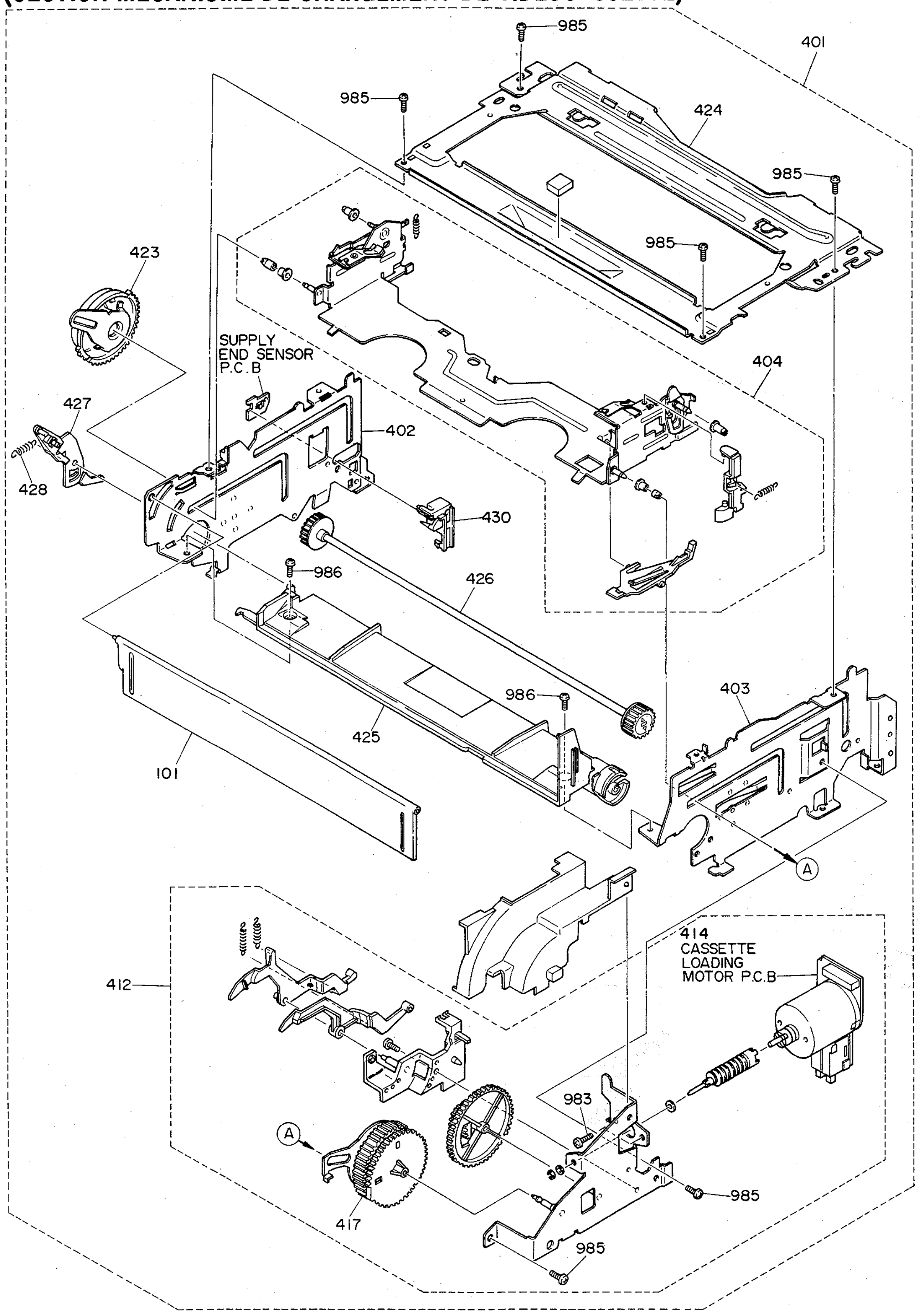
CHASSIS (I) SECTION (SECTION CHÂSSIS (I))


E
D
C
B
A
1
2
3
4
5
6
7
8
501
232
FULL ERASE HEAD
963
251
230
233
961
231
964
213
954
214
209
962
989
256
962
962
979
979
979
960
255
238
976
224
237
959
220
226
219
228
218
980
221
959
972
241
240
207
202
207
206
250
203
206
END LAMP/ SCANA PLAY HEAD
965
966
968
236
234
AUDIO/ CONTROL HEAD
235
246
116
963
967
247
251
230
321
322
320
H=GREASE
S=OIL
243
259
257
242
258
956
956
216
212
210
208
211

CHASSIS (II) SECTION (SECTION CHÂSSIS (II))


971
971
970
970
319
305
304
CAPSTAN MOTOR P.C.B
239
317
955
307
H
314
306
315
969
958
313
312
REEL SENSOR P.C.B
311
S
318
302
952
951
988
301
248
316
303
H=GREASE
S=OIL
MECH. STATE SENSOR
977
217
A
B
C
D
E
1
2
3
4
5
6
7
8

CASSETTE LOADING MECHANISM SECTION
(SECTION MÉCANISME DE CHARGEMENT DE VIDÉOCASSETTE)


985
401
985
424
985
985
423
SUPPLY END SENSOR P.C.B
404
427
402
428
430
986
426
986
403
425
101
A
414 CASSETTE LOADING MOTOR P.C.B
412
983
A
985
417
985
E
D
C
B
A
1
2
3
4
5
6
7
8

MAINTENANCE/INSPECTION PROCEDURE

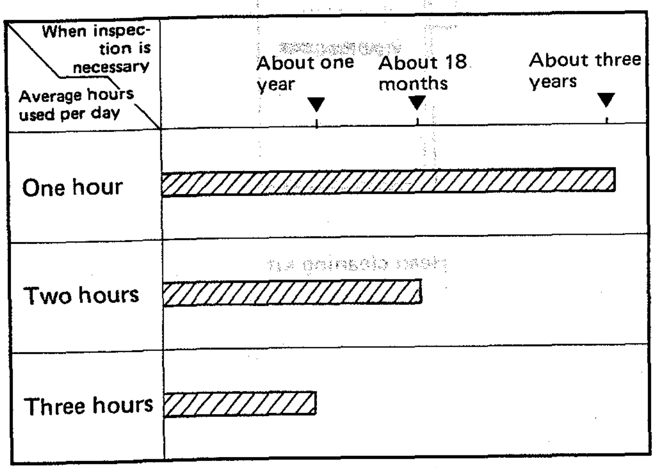
1. Required Maintenance

The recording density of a VTR is much higher than that of an audio tape recorder. VTR components must be very precise, at tolerances of 1/1000mm, to ensure compatible with other VTRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure good picture, periodic inspection and maintenance, including replacement of worn-out parts and lubrication, is necessary.

2. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VTR, and the environment in which the VTR is used. But, in general home use, a good picture will be maintained if the inspection and maintenance is made every 1,000 hours. The table below shows the relation between time used and inspection period.

Table 1



3. Check before starting Repairs

The following faults can be remedied by cleaning and oiling. Check the need for lubrication and the conditions of cleanliness in the unit.

Check with the customer to find out how often the unit is used. If from that, you determine that the unit is ready for inspection and maintenance, check the following parts.

Table 2

Phenomenon	Inspection Location
Poor S/N, no color	Dirt on video head or worn video head
Tape does not run or tape is slack	Dirt on pressure roller, reel bolt or flywheel belt
Vertical jitter, horizontal jitter	Dirt on video head or in tape transport system
Color beats	Dirt on full-erase head
Low volume or sound distorted	Dirt on audio/control head
Fast forward or rewind is not done or rotation is slow	Dirt on reel belt

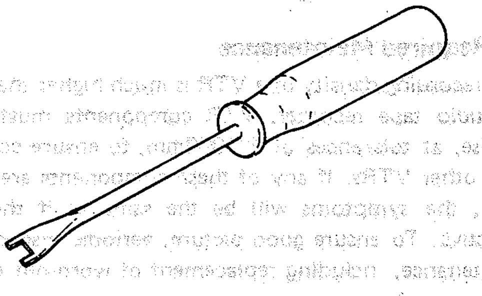
4. Tools Needed for Inspection and Maintenance

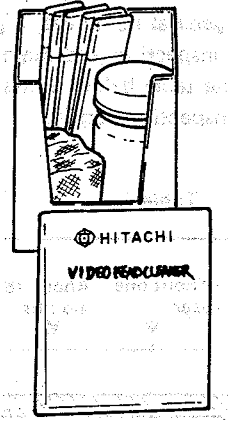
(1) Head cleaning kit
(2) VTR oil kit
(3) Alcohol (or freon)
(4) Gauze
(5) Screwdriver for adjusting X-value

Table 3 Locations for greasing and Oiling using the Kit

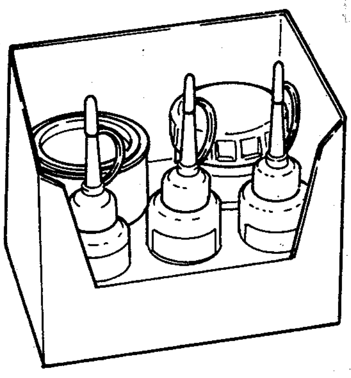
Name	Oil or Greasing Location
Pan motor oil (X10W40)	Oil high-speed rotating sections
Sonic Slidas Oil (#1600)	Oil low-speed rotating sections
Hitazol (MO138)	Grease metal parts under heavy load
Froil (GB-TS-1)	Lubricate metal or molded sections under light load
Lock paing	Fix adjustment screws

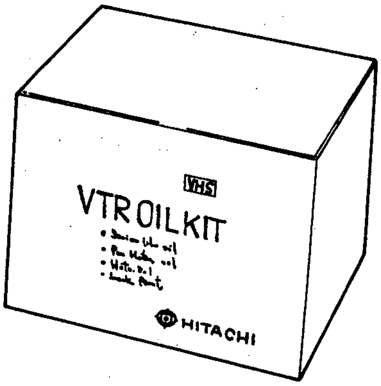
The above oils and greases are in the kit prepared especially for VTR maintenance. Use this kit for lubrication.


X-value adjustment screwdriver



Head cleaning kit





VTR oil kit

Fig. 1 Tools Needed for Inspection and Maintenance

5. Maintenance Procedures

5-1. Cleaning

(1) Cleaning video head

First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the head cleaning kit.

Coat the cleaning stick with cleaning fluid to the point indicated. Touch the stick to the head tip and gently turn the head (rotating cylinder) to the right and left. (Do not move the stick vertically and make sure that only the buckskin on the stick comes into contact with the head. Otherwise, the head may be damaged.)

Thoroughly dry the head. Then test run a tape. If cleaning fluid remains on the video head, the tape may be damaged when it comes into contact with the head surface.

(2) Cleaning the tape transport system and drive system, etc.

Wipe with gauze wetted with alcohol or freon.

Note:

① The tape transport system is the system which comes into contact with the running tape. The drive system consists of those parts which run the tape.

② Make sure that during cleaning you do not touch the tape transport system with the tip of a screwdriver and that no force is applied to the system that would cause deforming.

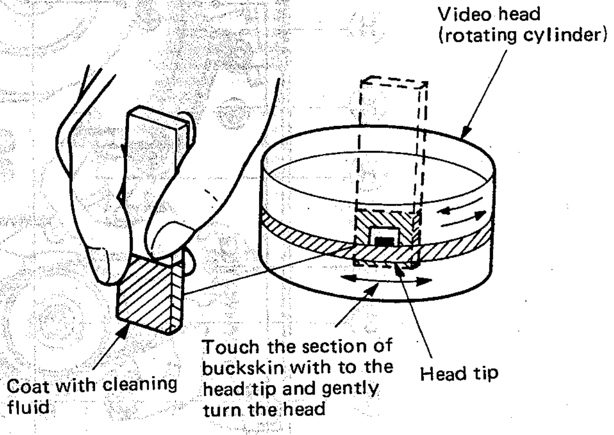
5-2. Lubrication

(1) Guidelines for lubricating with oil

Use the oiler to apply one or two drop of pan motor oil or Sonic Slidas oil. Make sure not to use too much oil because it may spill over or leak out coming in contact with rotating parts and causing slippage or other problems. If too much oil is applied, wipe clean with alcohol or freon.

(2) Periodic oil lubrication

Oil at specified locations every 1,000 hours.


Video head
(rotating cylinder)
Coat with cleaning fluid
Touch the section of buckskin with to the head tip and gently turn the head
Head tip

5-3. Greasing

(1) Greasing guidelines

Apply grease, Hitazol or Froil, with a stick or brush. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with gauze wetted in alcohol or freon.

(2) Periodic greasing

Grease specified locations every 5,000 hours.

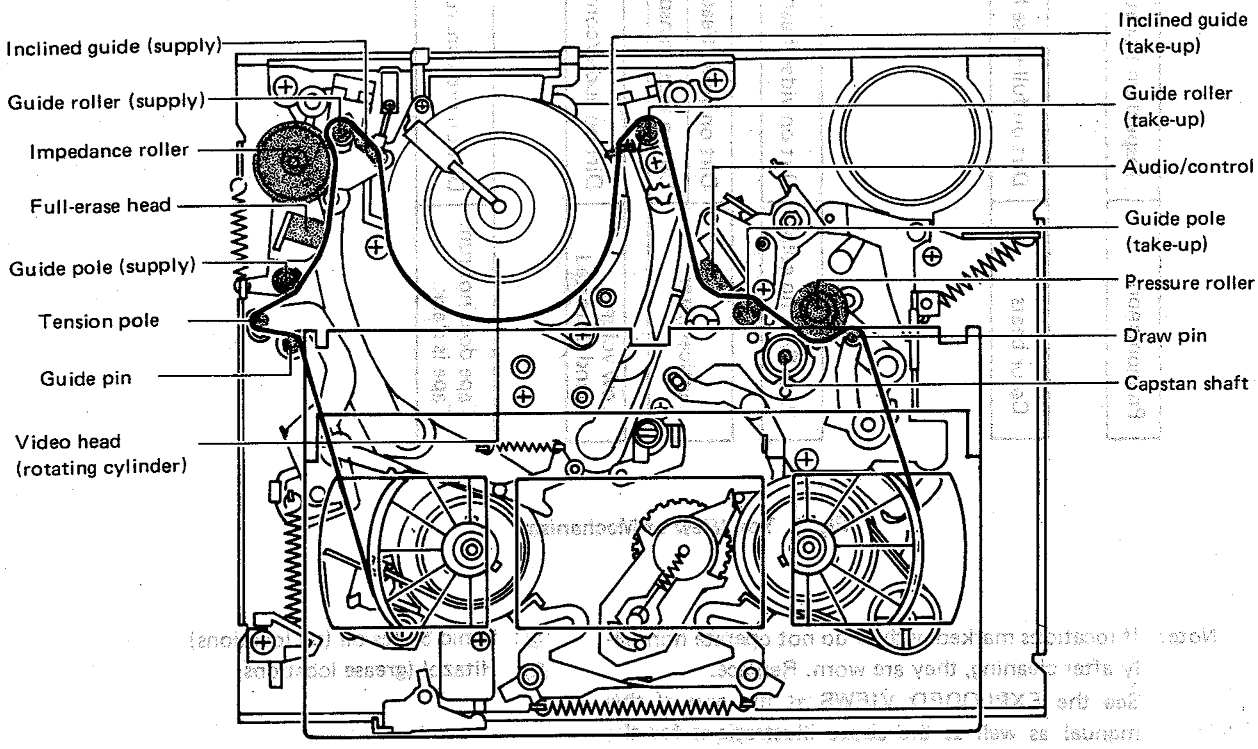
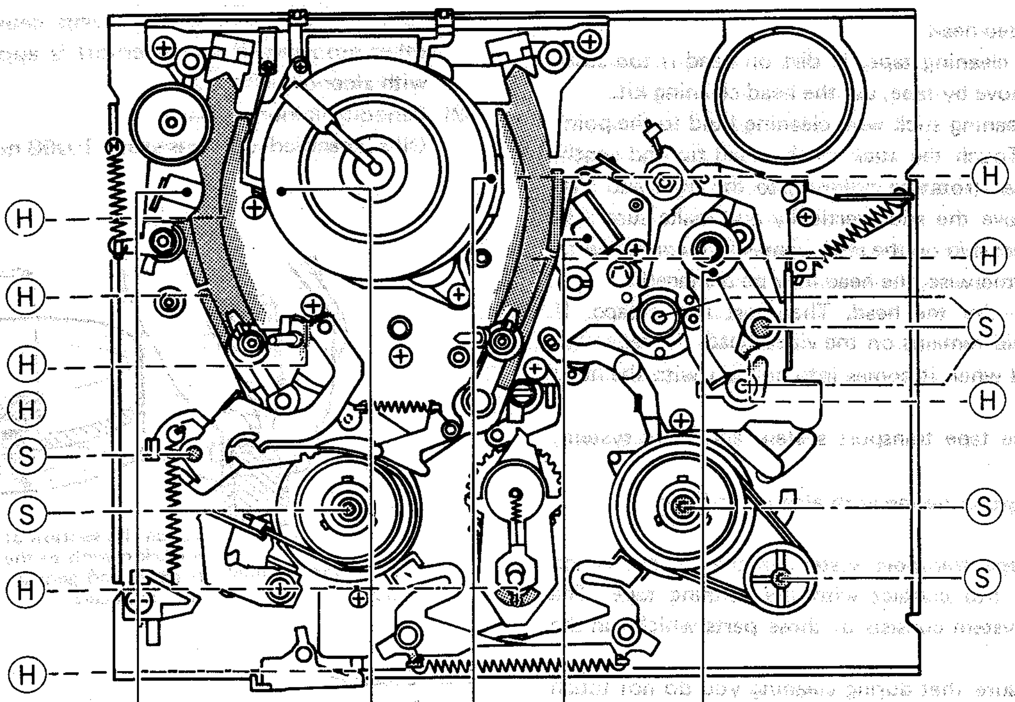

Inclined guide (supply)
Guide roller (supply)
Impedance roller
Full-erase head
Guide pole (supply)
Tension pole
Guide pin
Video head
(rotating cylinder)
Inclined guide
(take-up)
Guide roller
(take-up)
Audio/control head
Guide pole
(take-up)
Pressure roller
Draw pin
Capstan shaft

Fig. 2 Tape Transport System

6. Inspection Locations

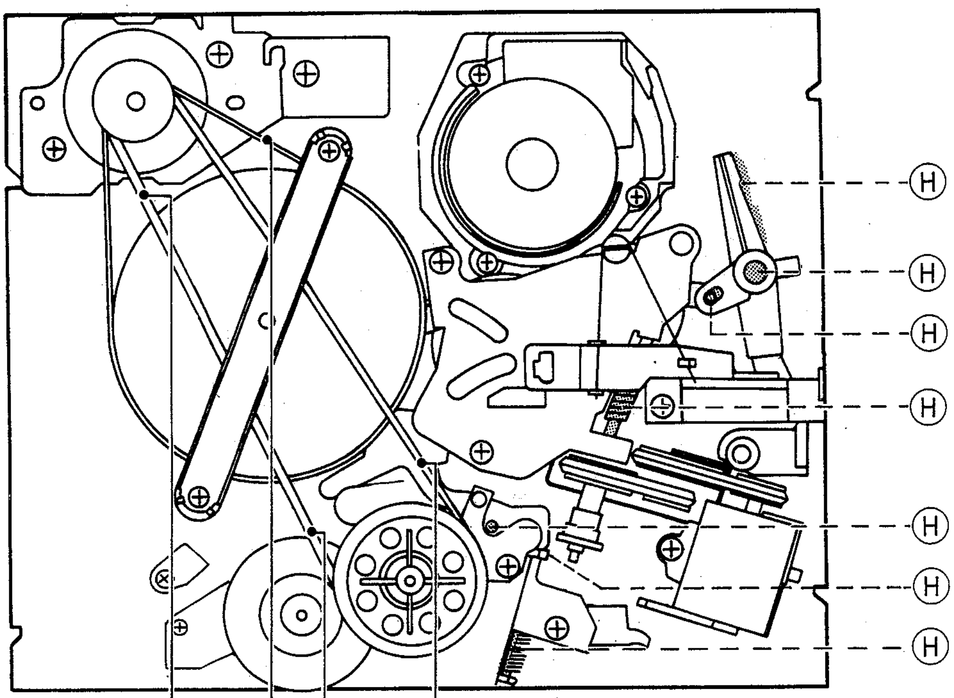


Phenomenon	Inspection Location	Replacement
Color beats	Dirt on full-erase head	
Poor S/N, no color	Dirt on video head	○
Vertical jitter	Dirt on video head Dirt in tape transport system	
Low volume, sound distorted	Dirt on audio/control head	○
Tape does not run. Tape is slack.	Dirt on pressure roller	○

Fig. 3 Top View of Mechanism

Note: If locations marked with ○ do not operate normally after cleaning, they are worn. Replace. See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

Ⓢ: Sonic Slidas oil (oil locations)
Ⓗ: Hitazol (grease locations)



Phenomenon	Inspection Location	Replacement
Slack tape	Dirt on reel belt	○
Tape does not run	Dirt on reel belt	○
	Dirt on flywheel belt	○
Do not fast forward or rewind, or rotation is slow	Dirt on reel belt	○

Fig. 4 Bottom View of Mechanism

Note: If locations marked with ○ do not operate normally after cleaning, they are worn. Replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

Ⓗ : Hitazol (grease locations)